Textile Industries

Formerly "COTTON"

a W. R. C. Smith publication

JULY, 1954

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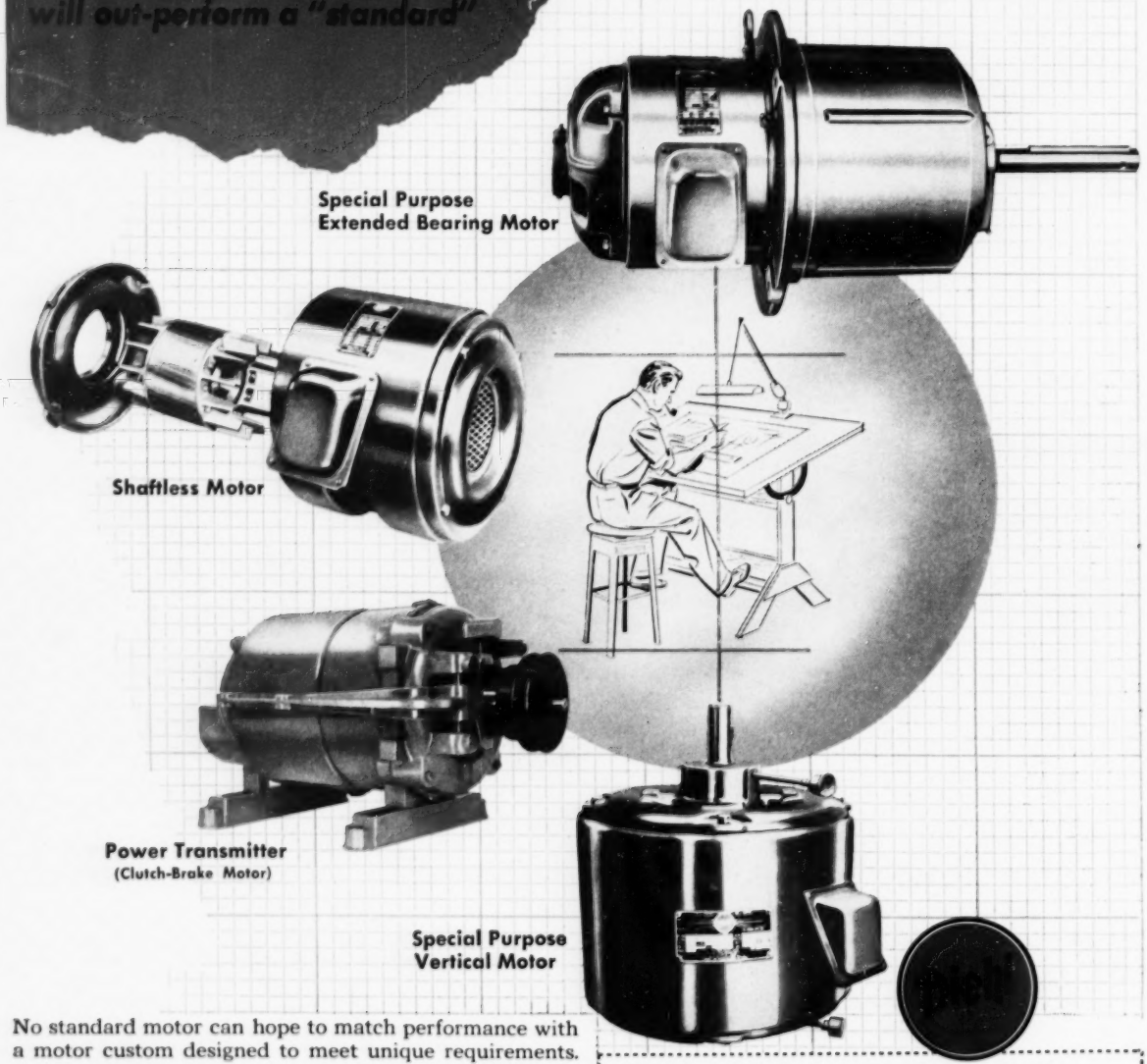
a motor designed for its job will out-perform a "standard"



Special Purpose Extended Bearing Motor

Shaftless Motor

Power Transmitter
(Clutch-Brake Motor)

Special Purpose Vertical Motor

No standard motor can hope to match performance with a motor custom designed to meet unique requirements.

That's why Diehl lays so much emphasis on custom construction . . . why, through the years, it has geared its abilities and its facilities, its design, engineering and manufacturing functions for maximum cooperation with its customers . . . whatever the application.

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When you want a fast, thorough answer to an unusual motor problem it will pay you to consult Diehl. Name your conditions . . . Diehl will design and build to match.

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Electrical Division of THE SINGER MANUFACTURING COMPANY
Finderne Plant, SOMERVILLE, N. J.

Please send me the following bulletins:

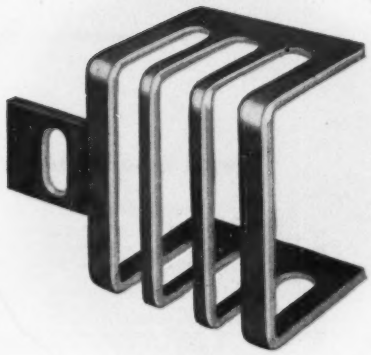
☐ New Type "D" Motor Bulletin No. TI-3304
☐ Consolidated Catalog & Price List No. TI-3310

Name_____

Company_____

Street_____

City_____ State_____



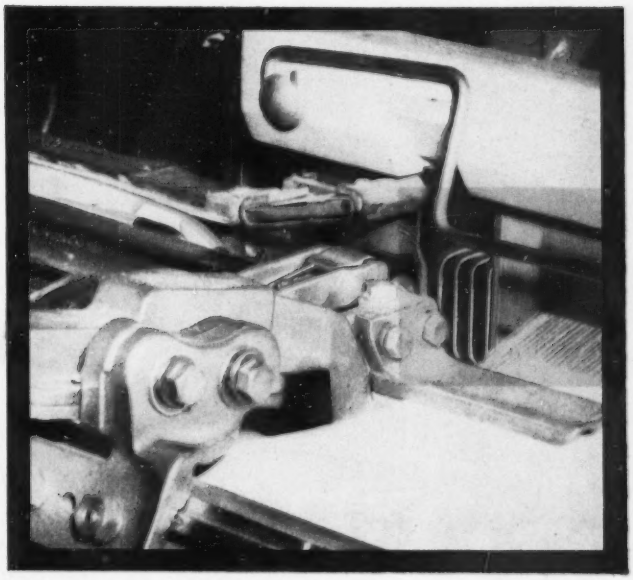
CUTS CLEANING COSTS

"Teflon"-Coated Fork Grates . . . over 30 mills are now using these lint-resistant grates on Draper looms.

All mills enthusiastically report big reductions in cleaning costs and cloth seconds.

"Teflon" coating imparts a **satin** finish to the metal grate which resists lint, dirt, grease and moisture collection. In actual mill trial, cleaning costs and resultant "down time" have been reduced.

Application of the "Teflon" Fork Grates to your looms will result in higher cloth quality and increased loom efficiency.



"Teflon"-Coated Fork Grates

Patented by Deering Milliken Research Trust.

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Textile Industries

Vol. 118, No. 7
July, 1954

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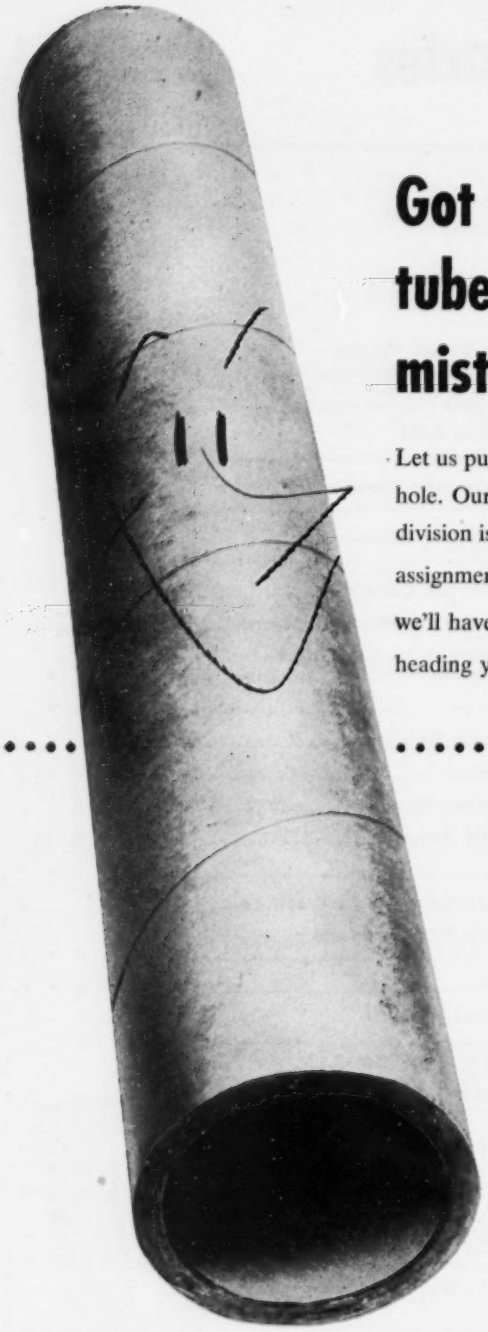

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Shorts and Remnants

► July and Dixie's summer heat . . . . cooled by breezes from the Chattahoochee and the sewage disposal plant . . . . in the midst of which a faithful reader reports that S&R is a corny column . . . didn't take him long . . . . others want more information on textiles . . . . such as in 1474 in the city of Bale an 11-year-old rooster was publicly executed because it had suddenly begun to lay eggs . . . . and a fashion show organized for the natives in Belgian Congo led to a free fight . . . . in France the possession of two pairs of trousers was declared to be essential. . . .

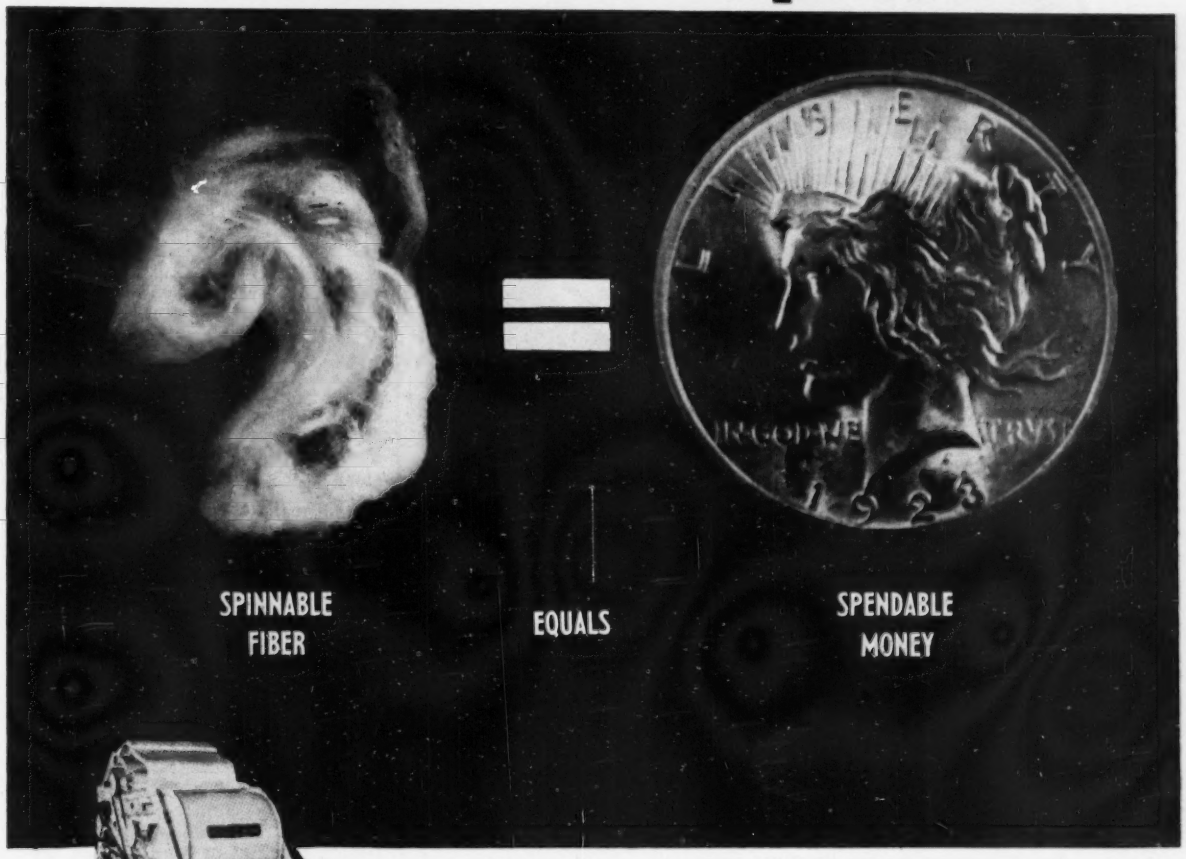
. . . . the Palm Beach advertising that two differently colored suits give four outfits . . . . the mail-order catalog man who used to carry an extra pair of pants over his arm . . . . a textile executive's little girl being knocked down by waves and saying she likes the ocean except when it flushes. . . .

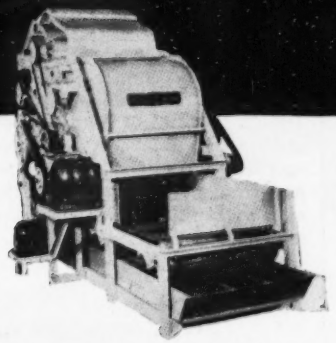
. . . . supplier telling prospective employee he needs crackerjack salesman and getting reply that he hasn't sold Crackerjack but did sell peanuts . . . . finer yarn and cloth and hose getting to the point of no return and why wear anything . . . . mills in small town trying to impress public of textile payroll by paying off in $2 bills finding enough $2 bills unavailable. . . .

. . . . textile man being elected director of Planned Parenthood Federation of America . . . . Americans eating more than 58 million sandwiches a day . . . . requests for books on training additional salesmen in the textile industry when salesmen it has aren't selling . . . . lucky guy who reports 32 pages missing from his last TI issue . . . . newest sign noted to get ideas from employees THIMK! . . . . January '54 issue of digest service publishing abstracts from March '54 issue . . . . headline you won't see "Metallic Staple Will Test Your Mettle; These Tips will Help to Iron Out Difficulties" . . . .

. . . . baseball club hiring psychologist and mills hiring baseball play-

remember this equation:





OPENS } *COTTON*
CLEANS } *WOOL*
BLENDS } *SYNTHETICS*

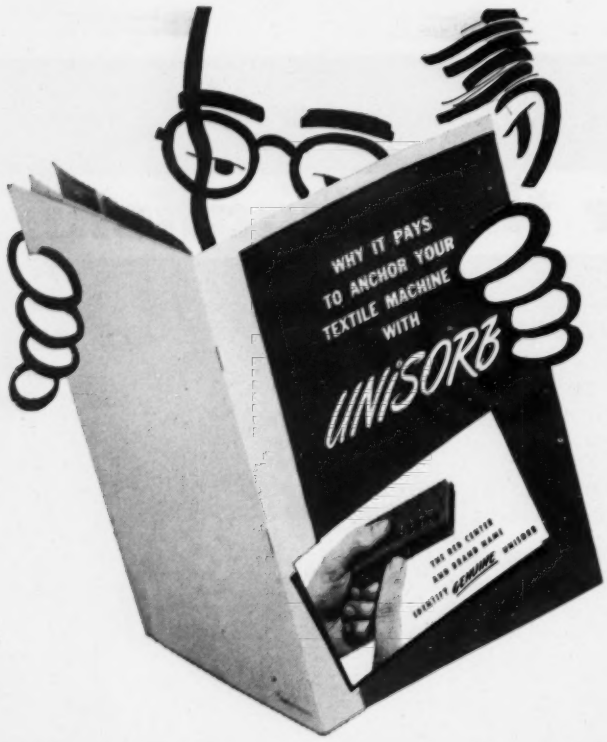
You may be a little rusty on your algebra, but this is one equation you can't overlook.

Everytime you see spinnable fiber in your opening waste, you're looking at money in the waste basket. Brother, there's no sense in *throwing* it away!

The CEN-TENNIAL TEXTILE FIBER OPENER saves spinnable fiber and saves money. An installation in your opening lines will amortize itself very quickly. Call or write for details today.

CEN-TENNIAL COTTON GIN CO.

COLUMBUS, GEORGIA



the way to mount your machines

— without drilling floors

— without bolts or screws

You can reduce transmitted noise and vibration from your machines by using this low cost and modern mounting method.

UNISORB mounting pads give you a 60% to 85% reduction in transmitted vibration and noise . . . quick installation without floor drilling for bolts, without using screws.

For your copy of the free UNISORB book, return the coupon today. Before you install or re-locate another loom, card, twister or any textile machine, get to know UNISORB. There is a type of UNISORB for virtually every type of textile machine in your mill.

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Shorts and Remnants

ers . . . . pay-as-you-go stock market purchase plans being applied to textile magazine subscriptions . . . . largest room in the world is the room for self-improvement . . . . about 50% of monkeys are left-handed . . . . the indispensable man who was dispensed with . . . . recent classification of ramie as new fiber but Chinese wrote about it 4000 years ago . . . . productive life to patents averaging less than seven years . . . . tour of the entire Pentagon Building covering 17 miles. . . .

. . . . first woolen card to operate in U. S. taking its place in the Smithsonian Institute . . . . celebration of National Cotton Week, Foot Health Week, Luggage Week, Park & Recreation Week, Be Kind to Animals Week, Correct Posture Week . . . . night vision decreases as one gets older . . . . Keep Your Eye on TI . . . . the magazine with the gapless coverage plan.

To Foreign Investors

" . . . . just returned from a visit to a foreign country which I cannot name and the owners (whose name I cannot disclose) of a certain type of mill there are interested in getting American investors as stockholders . . . . I do not wish to bring this to the attention of too many people . . . "

Name Withheld

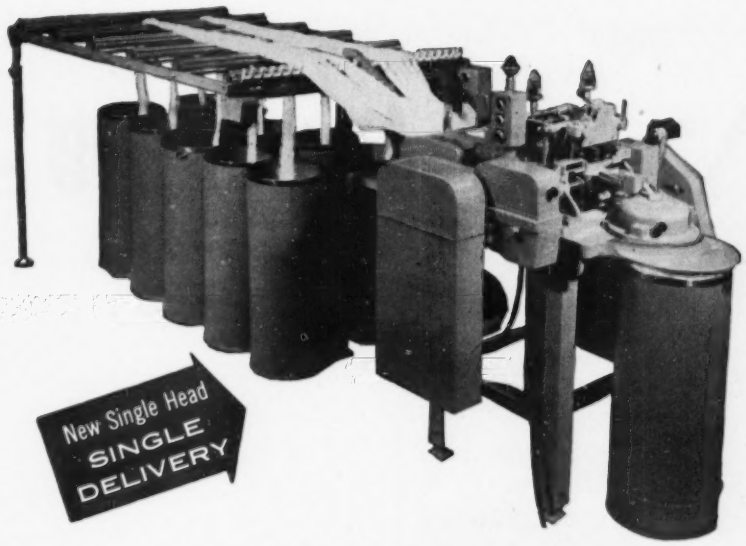
► Not too many American investors desiring to invest in an unknown foreign country, in an unspecified type of mill, with foreign partners of undisclosed identity, may send an unsigned check to the above unnamed correspondent direct.

That Wall Chart

" . . . . U. S. Information Agency has received a request from London for copies of a wall chart 34x22" showing textile mills and machinery in the United States . . . . if copies are available for distribution we should be happy to receive two copies for transmittal to London. . . . "

ANNA B. HENDRICKSEN
U. S. Information Agency
Washington, D. C.

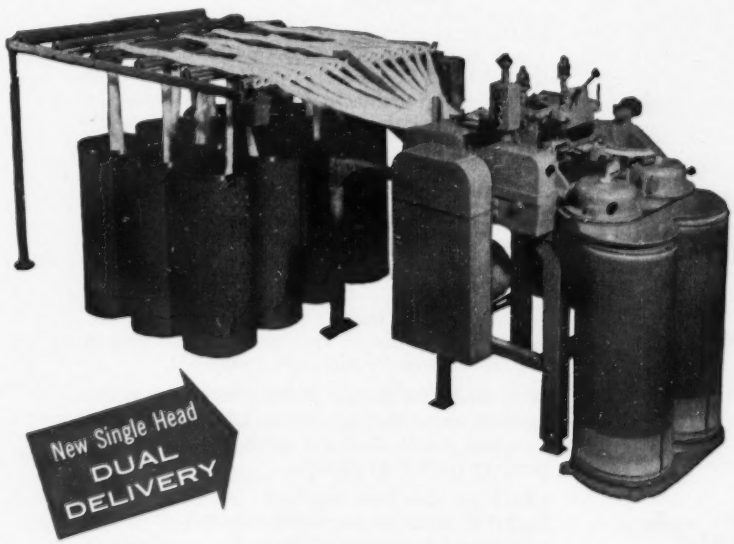
► Only a few copies remain; it is several years old, is as out-of-date as the industry changes since, but still contains much useful information.



Yes, these new, redesigned Pin Drafters give you all the previous advantages of the Pin Drafter System, *plus* many new production advantages in the first and second operations. Combined with their lower initial cost, it all adds up to higher production per dollar for you!

HIGHER PRODUCTION PER DOLLAR

with *new* Warner & Swasey Pin Drafters®



Take a look at these improvements:

- **Capacity increased 25% with new 6" faller bars!**
  From 4" effective pinning to 5".
- **25% faster!**
- **50% higher production!**
- **Better balanced production!**
- **Easier operation!**
- **Less maintenance!**
  Simplified design, sealed bearings.
- **Larger capacity creel!**

But get the complete facts about these new Warner & Swasey Pin Drafters. Call in our nearest Field Representative today!

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6910 Market St., Philadelphia, Pa. — 1820 Browning Ave., Charlotte, N. C.

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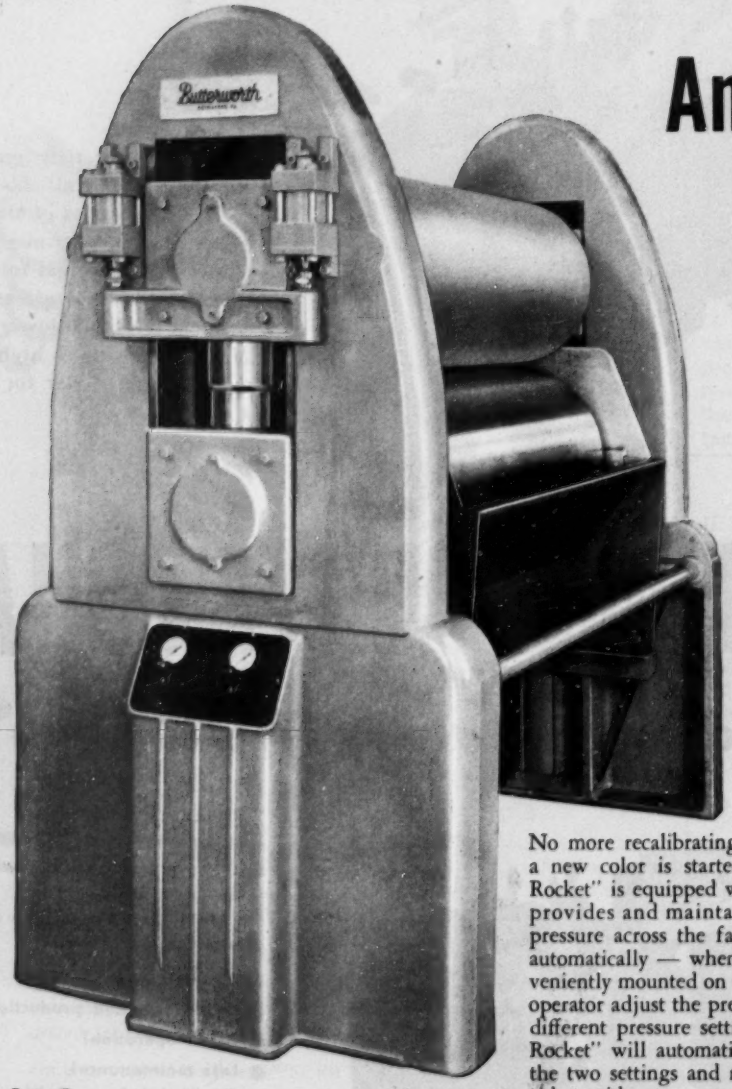


At Last . . .
Even Pressure Side to Side with the
"Auto Rocket"

No more recalibrating pressure settings whenever a new color is started. The Butterworth "Auto-Rocket" is equipped with a pressure-equalizer that provides and maintains absolute uniformity of pressure across the face of the rolls. It does this automatically — when you flip an air switch conveniently mounted on the control panel. Should the operator adjust the pressure incorrectly — i.e. with different pressure settings per side — the "Auto-Rocket" will automatically provide the average of the two settings and maintain even pressure from side to side.

Furthermore, by closing a valve, the "Auto-Rocket" can be used to handle applications where separate pressure control for each side is required.

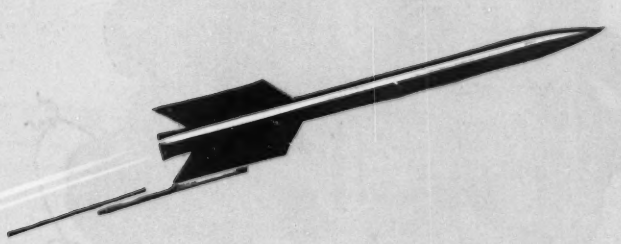
With the "Auto-Rocket", there is no loss of motion or time delay through lever operation or other actuating means. You get quick, steady, uniform pressure from 0 to 30 tons.

Check on this new machine. See how "Auto-Rocket's" multi-purpose design lends itself to your present and future requirements. For specifications, write or call H. W. Butterworth & Sons Co., Bethayres, Pa.

BUTTERWORTH

. . . the BUTTERWORTH "Rocket"

- **PADDER**
- **MANGLE**
- **CALENDER**



Here is important news from textile finishing headquarters! Butterworth announces two new machines to help improve quality of finish:

(1) The Butterworth Standard "Rocket" . . . is built with independent pressure control for each side of the machine. It is used where there are frequent applications for different pressures per side.

(2) The Butterworth "Auto-Rocket" . . . can do everything the Standard "Rocket" can do, but in addition, it is equipped with a pressure-equalizer which assures you of even pressure from side to side — instantly and automatically. See details at left.

4 Machines in 1

Either the Standard "Rocket" or the "Auto-Rocket" can be used as a

Padder, 2- or 3-roll
Mangle, 2- or 3-roll
Embossing Calender, 2-roll
Rolling Calender, 2- or 3-roll

Hydraulic-pneumatic-control of roll pressure ranges from 0 to 30 tons. Controls are built into the unit. Driven roll at bottom is stainless steel; top roll is rubber.

Easy Roll Removal

To convert the "Rocket" or "Auto-Rocket" to any of its four applications, rolls can be easily changed — merely by removing the top cap of the machine frame and lifting the rolls out of the machined guides. This machine is furnished completely piped for both pneumatic-hydraulic-control circuits, and in changing rolls no lines need be disturbed.

Standard roll widths are 50″, 60″, 66″ and 72″ — others furnished as desired.

Write for full details today — request new Bulletin No. 906.

H. W. BUTTERWORTH & SONS CO.
Bethayres, Pennsylvania

1211 Johnston Building, Charlotte, North Carolina
187 Westminster Street, Providence, Rhode Island

Machines for Bleaching, Boiling-Out, Dyeing, Mercerizing, Finishing & Embossing : : Pot Spinning Machines for Synthetic Fibers Calender Rolls : : Tenter Chains

For Easy Pipe Threading

2½" to 4"... it's the 4P

RIDGID

RIDGID 4P is easy to carry, easy to put on pipe

Balanced loop handles make it a cinch to carry and swing up on a pipe! Besides, the mistake-proof work-holder sets to size before you lift it—only one screw to tighten on pipe. Easy upkeep—drive pinion in oilless bronze bearing; safe enclosed gear. 4 sets of 5 high-speed steel dies, 2½", 3", 3½", 4". Ratchet handle. RIDGID drive shaft available. Save work—buy 4P at your Supply House.

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RIDGID
Work-Saver Pipe Tools

Shorts and Remnants

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" . . . . please send one copy each of following booklets. . . . "

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Supt. Dye & Finish
Cabin Crafts, Inc.
Dalton, Ga.

Our Cutter Readers

" . . . . will you please send us a reprint of your article on How To Train Seamer Operators . . . . "

LEO C. BURNIGHT
Aalfs-Baker Mfg. Co.
Sioux City 7, Iowa

Straightening Needles

" . . . . certainly appreciate the reprints on the subject of Straightening Needles for Full-Fashioned Machines by B. D. Gaddy. I wrote for these as one of our customers was very anxious to get an article on the proper method. . . . "

HENRY D. BLAKE
Manager
Torrington Company
Greensboro, N. C.

► Article has always been popular with the knitting mills; has been reprinted several times to meet demand.

Quick Release

" . . . . very interested in the article Quick Release for Friction Drum Clamp on C&K Terry Towel Looms appearing on page 211 of April issue . . . . like to obtain additional information and should be pleased if you could supply us with the name and address of Contributor No. 8660. . . . "

D. L. (Canada)

► Editors do not disclose identity of contributor numbers without their permission; in this instance D. L. and 8660 were brought together by mutual consent.

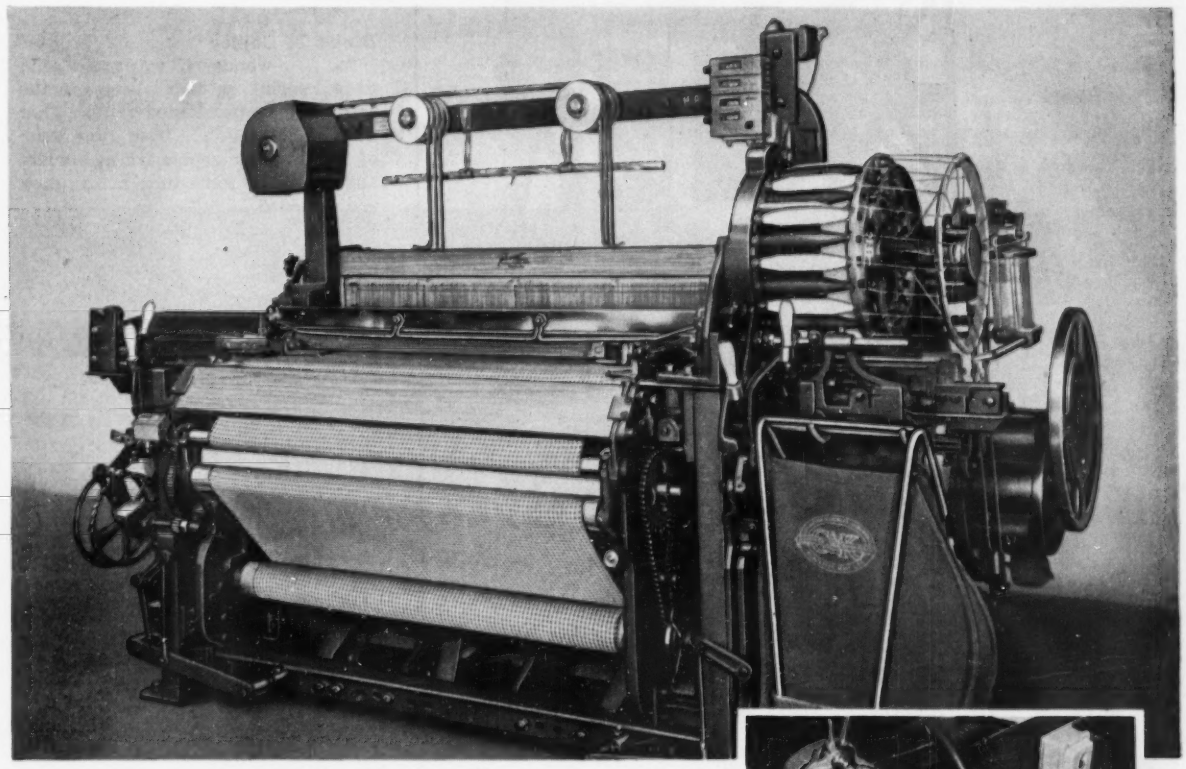
Elusive Information

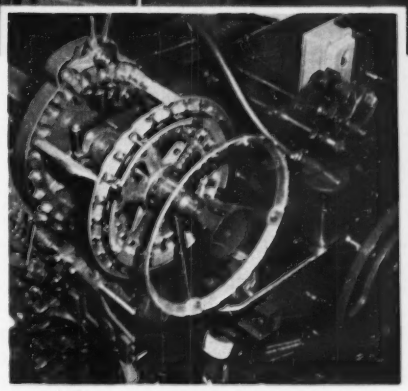
" . . . . have read of novelty or specialty yarns produced in carding or spinning, such as slubby, nubby, flake, heather, etc., but have been unable to find any reference material on the processing of same. . . . "

T. F. C.
North Carolina

► An article on the subject appeared in Sept. TI, 1953, and other articles have appeared in the technical press from time to time; most novelty yarns are made by modifying

Here Again...
M-P means More Profit to You
...in C&K's New 2-Color Denim Loom





New 2 x 1 Rotary Magazine on C&K's 2-Color Denim Loom.

NEWS HEADLINER at Atlantic City was this new C&K *Multi-Purpose* Loom for weaving 2-color denim automatically.

This is one of 5 new C&K M-P Looms designed to produce for you the greatest amount of salable cloth at lowest cost per yard. And each of these 5 M-P Looms gives you these same 4 basic advantages . . . because each has the *same basic frame* to which any motion can be applied:

1. Lower Maintenance Cost: Heavier loom frames cut down vibration. Many more parts are doweled into place . . . so machine settings are retained longer. New cone picking motion and double-plate clutch reduce down time and increase efficiency.

2. Fuller Work Assignments: Better control of both filling and warp . . . with lessened maintenance needs . . . should make possible an increase in work assignments.

3. Greater Flexibility: New M-P Looms are quickly and easily convertible . . . because *all* parts of *all* motions have been designed to fit onto the same basic frame.

4. Better Cloth Quality: 2, 3, and 4 color rotary magazines hold bobbins securely. Bobbins don't slip . . . transfers are clean. Vacuum control picks up all ends. Composite let-off is positive. So with both filling and warp under better control . . . and with loom-stops reduced to a minimum . . . quality of cloth is bound to be better.

Get the whole story on the new 2-color denim loom . . . the 4 x 1 filament loom . . . and all the other new C&K M-P (*More Profit*, to you) looms. Get in touch with C&K today.

Crompton & Knowles LOOM WORKS

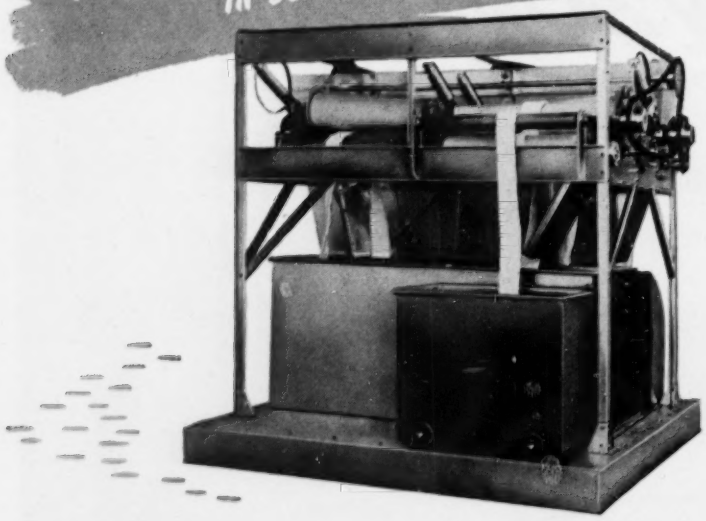
WORCESTER 1, MASSACHUSETTS, U. S. A.

Philadelphia, Pa. · Charlotte, N. C. · Allentown, Pa.

Crompton & Knowles Jacquard & Supply Co., Pawtucket, R. I.

This "Invisible Trademark" Stands Back of the Trademarks of the World's Finest Fabrics . . . which are **WOVEN** Fabrics.

THE BIGGEST STEP FORWARD EVER MADE IN SLACK WASHERS!



THE PROCTOR CON-O-MATIC WASHER

- **TENSION-FREE OPERATION**

  Tanks are automatically kept filled to the desired level through the use of tapered squeeze rolls.

- **EVEN AMOUNT OF FABRIC IN EACH TANK**

  Another automatic feature! Self-compensating rollers take the place of effort or attention on the part of the operator.

- **VERSATILE**

  The basic principle can be adapted to almost any liquid-processing of fabrics.

  No other slack washer offers as efficient operation as the Proctor Con-O-Matic Washer! And no other slack washer offers such simplicity of design to save you from frequent and costly maintenance. Here's an entirely new conception of a slack washer *. . . and it's tried and proved!*

  What's more, the basic principle of this machine can be adapted for almost any use where fabrics are processed in a liquid: as a saturator, in a dye process, and in many other processes. Let's talk it over—and see how the Proctor Con-O-Matic can improve your operation!

Proctor & Schwartz, Inc.

PHILADELPHIA 20, PA.

MANUFACTURERS OF EQUIPMENT FOR "REDMANIZED"® FABRICS AND THE PROCTOR CONTINUOUS BLEACH SYSTEM

Shorts and Remnants

conventional equipment, but some machinery manufacturers can furnish auxiliary equipment to secure certain effects.

Binds TI Copies

" . . . . wonder if you could send us a reprint or tear sheets of the article on Contaminated Cotton That Caused Rejects . . . . from June issue of TI . . . . our copies are at binders and it will be some time before they are returned. . . . "

CAROLYN J. JONES
Librarian
Research Division
West Point Mfg. Co.
Shawmut, Ala.

Woolen & Worsted Report

" . . . . am writing a report on the woolen and worsted industries in the form of a comparison . . . . if you have any information on these topics would you please send it to me . . . . "

F. A. B.
Student
Massachusetts

► Guess he had to start somewhere.

Too Theoretical

" . . . . we looked into the Double Trumpet Spinning questions and decided we couldn't come up with any useful information with any kind of test. Frankly, believe this is too theoretical. . . . "

C. C. C.
Superintendent
Georgia

► Gabriel and C. C. C. settle for one trumpet.

The Cold Slurry

" . . . . could get one reprint of Pacolet's Cold Slurry Size System from your March issue. . . . "

J. B. BAKER
Manager
Pelzer Mills
Pelzer, S. C.

Tar Spots Again

" . . . . will you please send us a reprint of the article Tar and Asphalt Contamination as printed in TI of March 1952 as mentioned on page 177 of the April 1954 issue. . . . "

P. MEEUWSEN
Supt. Fabric Division
Modern Globe, Inc.
Grand Rapids, Mich.

(Continued on page 20)

They're looking for something that's harder to find

The Hatch Mill at Columbus, North Carolina, is still another Deering-Milliken Mill to be air conditioned by Carrier. ▪ These girls in the cloth room are inspecting "Lorette"—the famous Deering-Milliken blend of orlon and wool. They have *more* cloth to check—but *fewer* defects to find—because Carrier air conditioning at Hatch Mill ensures a uniform yarn and a uniform cloth. ▪ The Hatch installation, like all Carrier textile systems, was custom-designed. Two different Carrier systems supply year-round air conditioning. Unvarying temperature and humidity conditions needed in the carding, spinning and weaving rooms are dependably supplied by a Carrier Central Station System and a 605-ton

Carrier Centrifugal Refrigerating Machine. Another modern Carrier system air conditions the offices and the plant cafeteria. ▪ Even the location of air handling and refrigeration apparatus meets specific requirements. All equipment is located on the ground floor at the front of the building. This permits a pleasing architectural design and it eliminates the expense of a penthouse installation. Maintenance is simplified, too. ▪ Carrier's vast experience in the exacting business of air conditioning a textile mill is as close to you as your telephone. Call your nearest Carrier office. Or write direct to Carrier Corporation, Syracuse, New York.

Carrier

air conditioning
refrigeration
industrial heating

Designed by Deering-Milliken Mills engineering department
Built by Daniel Construction Company

So successful with close-pin cradles, this apron is . . .

Now used on all types

Armstrong's new NO-7075 runs clean and smooth, eliminates top-apron slippage

To get best possible yarn on double-apron equipment, many mills are using the apron that gives top spinning results with close-pin cradles—Armstrong's NO-7075 Accotex® Apron. Made of two different synthetic rubber compounds, this apron provides cleaner, smoother inside operation, plus the right surface friction to control the yarn and prevent slippage of the top apron.

The white rubber compound used on the inside of the NO-7075 was developed to meet the conflicting requirements of long-draft, double-apron spinning. It's smooth enough to slip over the pin without jamming or buckling. Yet it also has sufficient friction to grab the drive roll firmly and insure even transfer of power from roll to apron.

What's more, this white inner surface runs exceptionally clean. Special electrolytes added to the white inner compound help to prevent the accumulation of loose fibers.

NO-7075's black outer surface has its own special advantages, too. This compound is made to give good flex life—as well as high resistance to tearing and abrasion. Because the black outer layer provides extra friction, it drives the top apron without slipping and maintains good yarn control.

Between these black and white layers is an interliner of rugged cotton cords. This prevents stretching or curled edges . . . assures long apron life without changes in size.

A test in your own mill will show you how well the NO-7075 performs on double-apron frames. To get samples, call your Armstrong man or write Armstrong Cork Company, Industrial Division, 6407 Ivy Street, Lancaster, Pennsylvania.

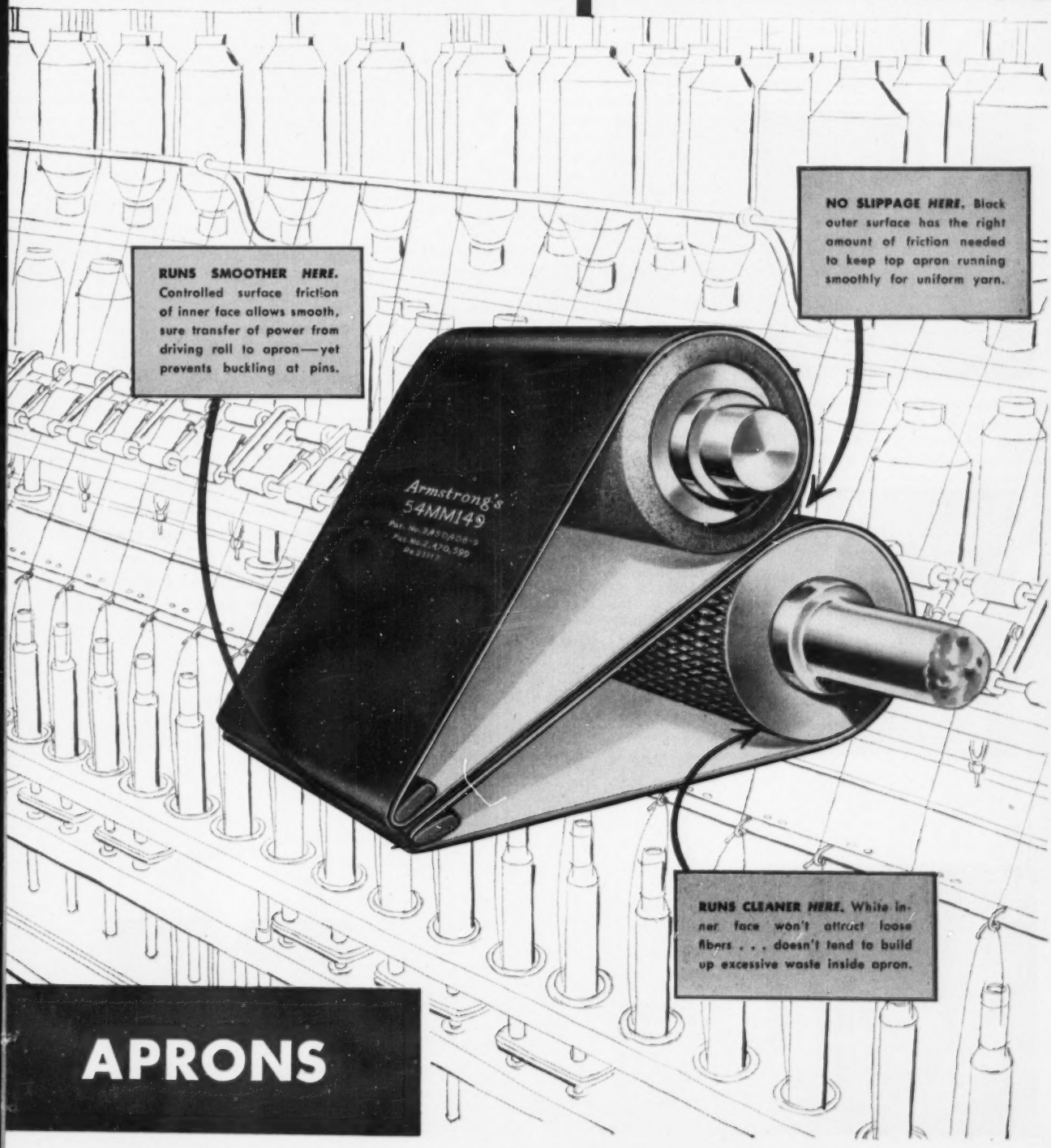
ARMSTRONG OFFERS THESE TOP-QUALITY APRONS

FOR DOUBLE-APRON FRAMES, the NO-7075 apron gives you smooth, clean operation on all types of equipment.

FOR SINGLE-APRON SPINNING, the super-flexible NO-750 insures smooth slip-roll action for uniform yarn.

ARMSTRONG'S ACCOTEX

# of double-apron frames


RUNS SMOOTHER HERE. Controlled surface friction of inner face allows smooth, sure transfer of power from driving roll to apron—yet prevents buckling at pins.
NO SLIPPAGE HERE. Black outer surface has the right amount of friction needed to keep top apron running smoothly for uniform yarn.
Armstrong's
54MM149
RUNS CLEANER HERE. White inner face won't attract loose fibers . . . doesn't tend to build up excessive waste inside apron.

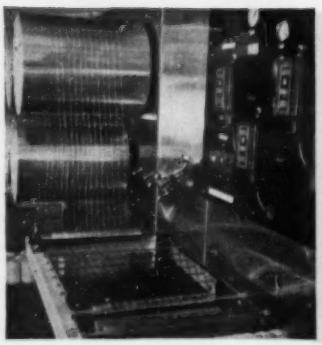
APRONS

For further information use Handy Return Card, Page 176

Research and experience... yours for the asking with

Monsanto's 3-point service in warp sizing

1. *Monsanto's comprehensive line of warp sizes* includes Stymer* LF for loom-finished acetates, such as this taffeta which won't water-spot; Stymer R for newest synthetic fibers; and Stymer S for rayon and synthetics.



2. *Unique development and evaluation facilities,* such as this Monsanto-planned slasher, reproduce modern mill conditions in the laboratory. They permit testing of synthetic resins as warp sizes under realistic circumstances.

3. *Monsanto's experienced personnel,* both in the laboratory and in the field, bring years of practical experience to your problems. They have pioneered many basic developments in the textile industry.

You're invited to take full advantage of Monsanto's 3-Point Service, combining the latest in warp size technology with years of field experience.

Monsanto's Service is based on a comprehensive line of warp sizes, developed and tested under mill conditions by the use of such unique equipment as the slasher shown here. It includes the advice of trained Monsanto personnel, both in the field and in the laboratory.

For complete information on Monsanto's line of warp sizes . . . and the help of our experienced technical and sales people . . . just call, wire or write

MONSANTO CHEMICAL COMPANY
Springfield 2, Mass.

*Stymer: Reg. U. S. Pat. Off.

MONSANTO

SERVING INDUSTRY . . . WHICH SERVES MANKIND

YARN DYED FABRICS —

the Royalty of Textiles

French Ribbon Plaid, 1890
Museum of Art, R. I. School of Design.

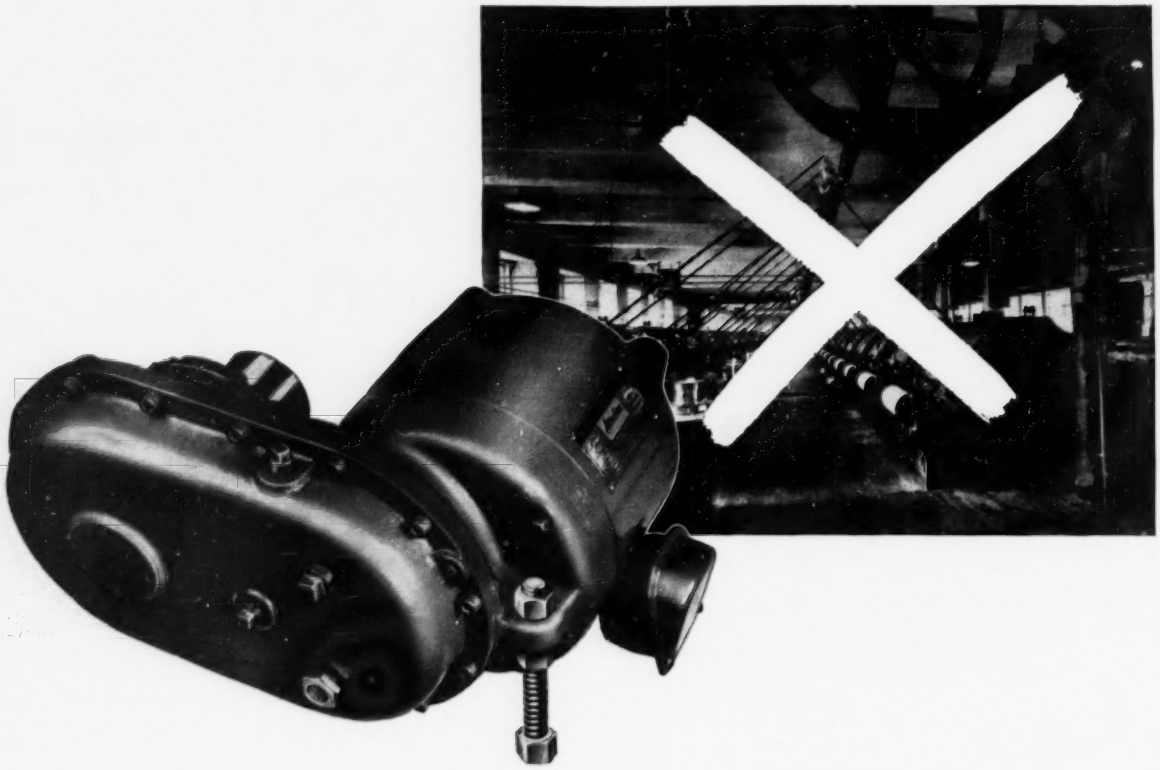
ONE element that won for the Gay Nineties their sobriquet was exuberance of design — as illustrated by the yarn dyed fabric shown here. Unfortunately, only the most prosperous could then afford "the royalty of textiles".

Soon, however, low-cost mass production was to bring fine yarn dyed fabrics within reach of all. Franklin Process, the original American package dyeing method, has figured largely in this modern advance.

Whatever your purpose, we can supply you with the best colored yarns at competitive prices. Nearby, there's one of our five strategically-located plants — offering our services as yarn merchants, and the world's largest package yarn dyers. Ask for prices and delivery!

Franklin Process

COTTON YARN MERCHANTS & LARGEST PACKAGE DYERS IN THE WORLD
New York Representatives — 40 Worth Street
PROVIDENCE • PHILADELPHIA • GREENVILLE • CHATTANOOGA • FINGERVILLE, S. C.



NEW SHAFT-MOUNTED DRIVE

clears overhead . . .
solves many card room problems

Westinghouse specially designed this compact Cotton Card Drive to mount directly on card cylinder shaft. Installation of this advanced drive presents no alignment problem.

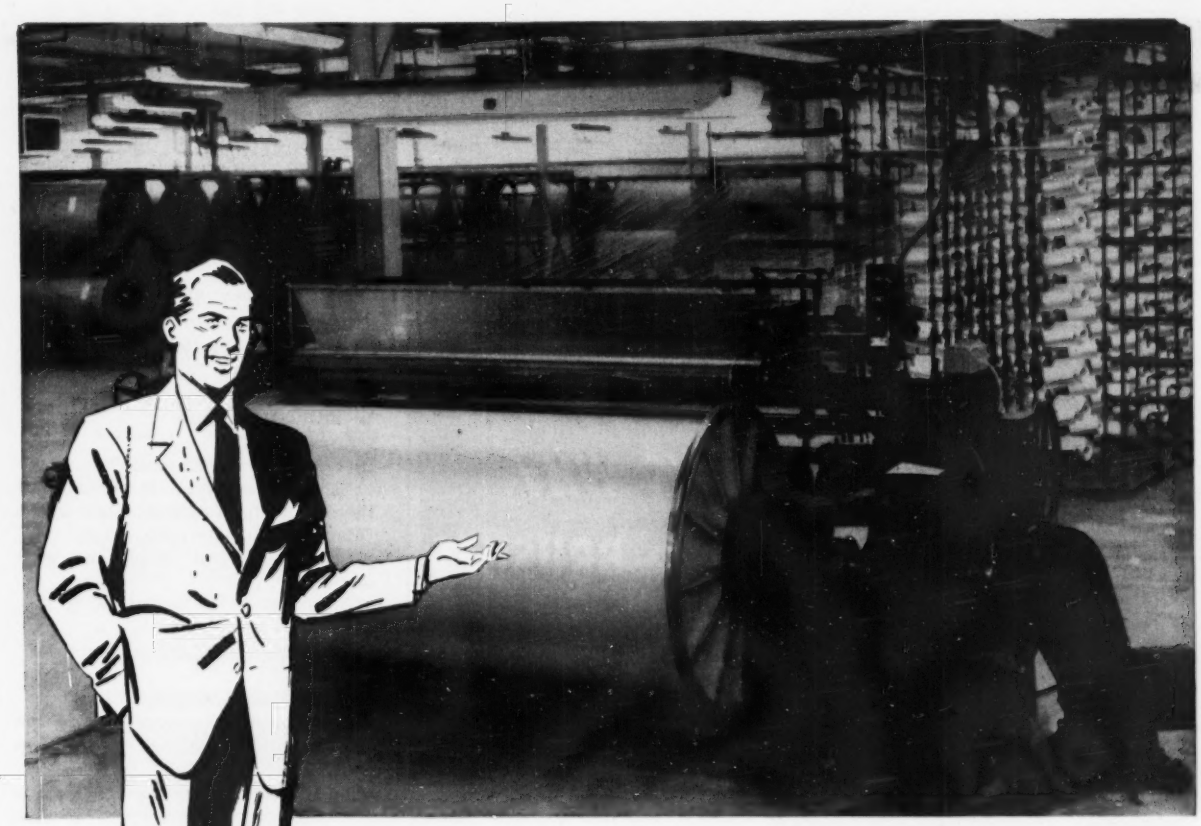
With all belting eliminated, the chance of slippage is erased . . . steady production can be maintained. Absence of belts also means greater safety, increased lighting effectiveness and clearer aisles.

Maintenance Low... Efficiency High—Simple design and rugged construction of Westinghouse Cotton Card Drives mean a minimum of servicing required. These integral drives have a marked maintenance advantage over a complex network of belts. The efficiency of these double reduction units is rated at 96%, and the squirrel-cage motor powering them has ample starting torque to handle difficult card loads.

Change-over No Problem—Transition from your present drive method to Westinghouse Card Drives can be quickly accomplished without reshuffling cards. Installation on one or a group of cards can be effected without disrupting the entire card room operation.

Obtain full information on this latest card drive advancement. Write Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pa. J-07338

YOU CAN BE **SURE**...IF IT'S
Westinghouse



400,000

Aluminum Warp Beams now in use...

AND NOT ONE FAILURE FROM DEFLECTION OR CRUSHING!

First introduced in 1938, aluminum warp beams number over 400,000 now in service! And, in all these years, *there has never been a single failure of an aluminum beam from deflection or crushing!*

Clean, strong, lightweight aluminum warp beams increase machine speeds—decrease handling and stacking effort. Because they are metal, *they will not splinter!* In addition, they will not groove under the tremendous winding pressures of synthetic yarns. Beams of light-but-strong Alcoa® Aluminum Extrusions and Castings or Forgings are available from many of the country's leading beam manufacturers—including:

- HAYES INDUSTRIES, INC.
- HUBBARD SPOOL COMPANY
- MILTON MACHINE WORKS, INC.
- BRIGGS-SHAFFNER

For additional information on lightweight aluminum beams—made from a specially developed Alcoa Aluminum Alloy, write: Aluminum Company of America, 2184-G Alcoa Building, Pittsburgh 19, Penna.

Alcoa Aluminum

ALUMINUM COMPANY OF AMERICA

HERE'S WHY

JENKINS' METLKOR® BRUSHES

are on

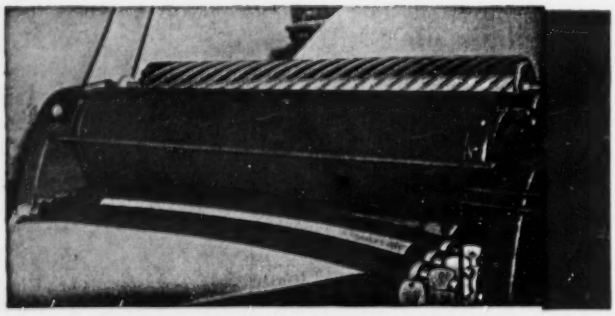
JAMES HUNTER SQUEEZE ROLLS

James Hunter Machine Co., North Adams, Mass., wanted a brush to stand up when removing acidified flock from their Carbonizer Squeeze Rolls. Jenkins' engineers designed a METLKOR brush with exposed metal parts of stainless steel and bristle of acid-resistant Nylon.

Mr. Frank B. Morrill, Chief Engineer, James Hunter Machine Co., says: *". . . we have been using Jenkins' brushes for flock removal on our Squeeze Rolls for about three years . . . They do a much better cleaning job than the brush previously used, and stand up several times longer . . ."*

This top textile machinery manufacturer has time-tested and proven the efficiency of patented Jenkins' METLKOR—the cylinder brush that lasts *many times longer* and *can be rebristled!* It can cut *your* brush replacement costs and do a better job, too.

If you have any standard or special brush problem, call or write: M. W. Jenkins' Sons Inc., Cedar Grove, Essex County, New Jersey.



A JAMES HUNTER CARBONIZER SQUEEZE ROLL WITH A JENKINS' METLKOR NYLON BRUSH

M. W. JENKINS' SONS, INC.

Over Three-Quarters' Century of Pioneering Brushes for Industry

Cedar Grove, Essex County, New Jersey

TELEPHONE Verona 8-5327

Shorts and Remnants

(Continued from page 12)

" . . . . please send me two tear sheets of your article Remove Tar Spots from Cotton Fabrics, page 177 of the April issue. . . . "

L. M. WOODWARD
Sec. & Gen'l Mgr.
Eastman (Ga.) Cotton Mills

► For a while TI had tar spots run out of the country—now they must be infiltrating again.

Interference in England?

" . . . . if reprints are available of the article by Professor Dale Jones [Machine Interference, Aug. '53] please would you supply me with one copy. . . . "

W. S. S.
England.

► No reprints; sent a tear sheet.

Jigsaw Pieces Missing

" . . . . we are subscribed and we have found the second continuation of an article Practical Terry Weaving in which we are particularly interested. As we are only in the possession of the second continuation and the first part and the third part are missing, we would be very much obliged to you, if you would kindly let us have same. All the other continuations, including the 6th, are in our possession. . . . "

L. C. M.
Spain

Rich Contents

" . . . . am a frequent reader of your TEXTILE INDUSTRIES since my brother had subscribed it for me . . . . being an assistant engineer in one of the best cotton mills in Formosa, I am very much interested in the rich contents of your volumes, specially in that about weaving. . . . "

S. T. T.
Free China

► May all of China some day be free.

The Will

" . . . . if by mistake a check has been returned to you marked Deceased—Return to Sender will you please re-make the check to me as he said he wanted his girl to have everything. . . . "

M. M.
Secretary
Florida

► Our girls already have everything.

HUNTER *equipment*

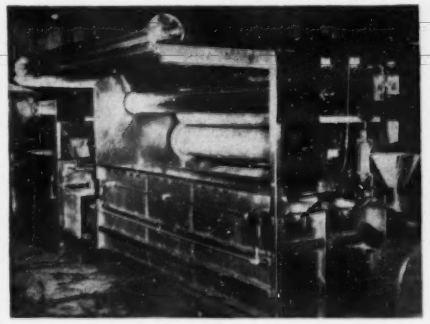
safeguards quality

at STRONG-HEWAT

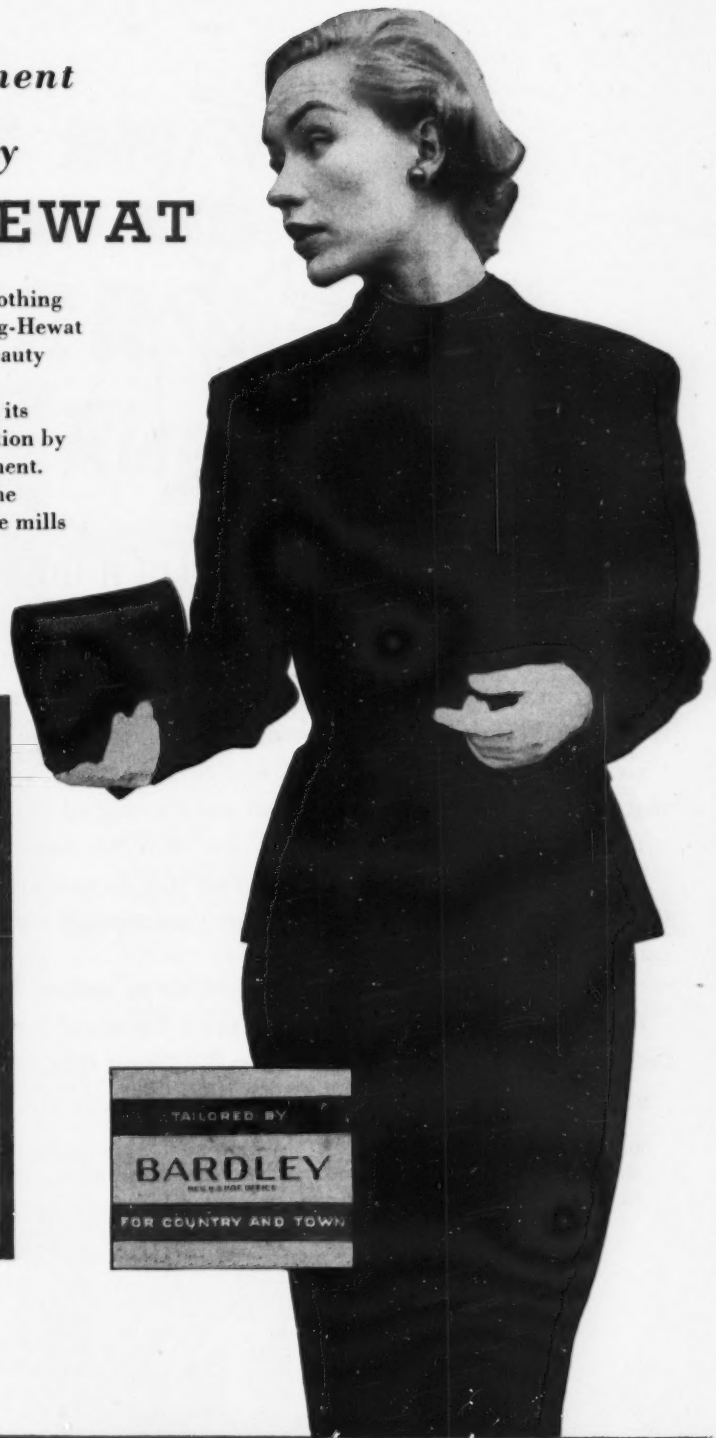
Many of the country's discriminating clothing manufacturers choose distinctive Strong-Hewat woolens and worsteds to enhance the beauty and quality of their fine creations.
The Strong-Hewat Company safeguards its excellent reputation for quality production by the use of superior methods and equipment.

It is only natural, therefore, that in the Strong-Hewat plant . . . and in other fine mills throughout the world . . . you'll find Hunter "plus production" equipment.

Hunter machines are used to finish a wide variety of ***woolens, worsteds, synthetics, blends*** and ***cottons.***



The Hunter Model M Cloth Washer is the finest machine available for batch washing of woolen and worsted piece goods. This stainless steel washer, with its pneumatic squeeze rolls and sliding suds box, is another Hunter "plus production" unit.



plus production

- efficient operation of modern equipment
- less down time of equipment
- quick, easy repair . . . rapid parts delivery

JAMES HUNTER

MACHINE COMPANY

NORTH ADAMS, MASSACHUSETTS FOUNDED 1847

BUILT BY HUNTER ...IT'S DEPENDABLE

JAMES HUNTER MACHINE CO. Hunter NORTH ADAMS, MASS.

Wal, shore, I know what I'm a doing!

I'm a pretzel twister. Been a twisting and a turning pretzels right and left nigh onto 15 years and nev'r twisted one the wrong way. No siree! Nary a one. Yep, reckon that's the reason that young fellow figured I could handle the air conditioning for his mill. Wal, I scooted right down to that mill and had that new fangled air conditioning all fixed up in two shakes of a lamb's tail. But then this here young fellow started yelling his head off that he would be the laughing stock of Worth Street after I got through with him.

Wal, sir . . . I guess I must have missed my calling. If folks up there on Worth Street will think I'm so gol-derned funny, I should have been one of them TV funny men, but I guess that's the way the wind blows.

*Don't let a would-be mechanic put this "twist" into your business. Make sure your air conditioning is put in by someone who is really reliable.

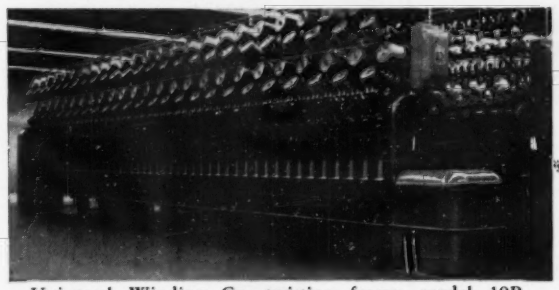
WHITE

Leaders in textile air conditioning for more than a quarter century • engineering, drafting and service departments serving the greatest names in the industry • 1442 South Tryon, Charlotte, North Carolina

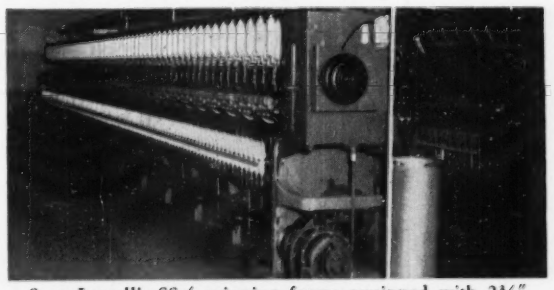
Shorts and Remnants

You liked George Buck's "Flammable Fabrics Act" in the May issue. Here's proof . . . .

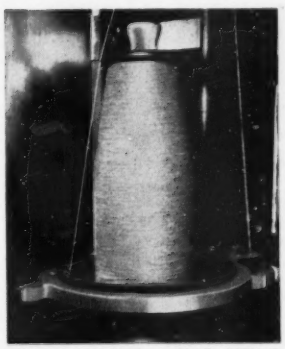
Here's why CHATHAM MFG. CO. uses HERR Conical Rings!



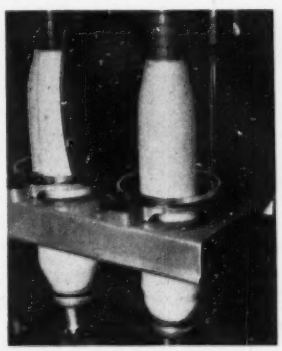
Universal Winding Co. twisting frame, model 10B, equipped with 4¾" HERR Conical Rings.



Saco Lowell's SS-4 spinning frame equipped with 2¾" HERR Conical Rings.



Close-up of the 4¾" HERR Conical Ring used in twisting worsted yarn at the Chatham Mfg. Co.



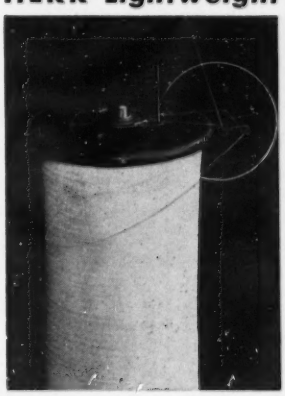
HERR 2¾" Conical Rings used in spinning worsted yarns.

Says Mr. T. B. Phillips, Superintendent of the worsted division: "In our flexible system, we would be limited with a flange-type ring. The HERR Conical Rings are adaptable to our requirements". The Chatham Manufacturing Co. of Elkin, N. C. is a multi-million dollar firm noted for quality woolen and worsted fabrics.

HERR CONICAL RINGS

easily adapt your equipment for higher speed production of any textile fiber or blend. They prevent yarn breakage, give smoother, cleaner yarn and permit heavier, more uniform doffs. No rewicking is required. You will have fewer ends down because HERR Rings compensate for and equalize yarn tension variations.

HERR *Lightweight* FLYERS



give you light tensions at profitable high speeds on all stretch nylon, crepe and Helanca yarns. Perfect balance means accurate yarn control and reduces split filaments or breaks.

Write today for help on your problem!

HERR

MANUFACTURING CO., INC.

310 Franklin Street Buffalo 2, New York

Please send us your literature.

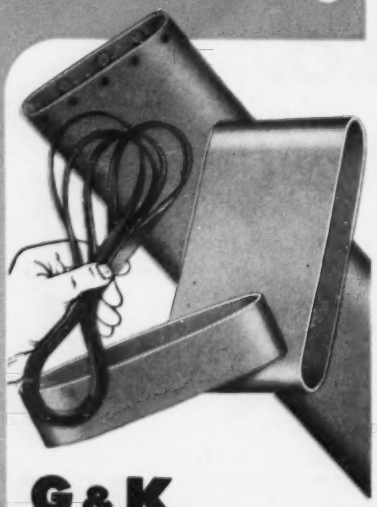
NAME ..... TITLE .....

COMPANY .....

ADDRESS .....

CITY ..... STATE .....

the helping hand to better roving



G&K

Aprons and Tapes "team up" for better roving

You need that uniform "pick-up" surface on your Comb and Gill Box-Aprons . . . that dead-even thickness and clean-cut edges on your Condenser Tapes . . . that glove-like friction surface and long, flexible laps for perfect rub-roll in your Rub Roll Aprons,

You get all these *and more* in G&K Leathers. First choice of hides — special tanning processes developed in a century of experience — careful workmanship. All these together give you aprons and tapes that *run true, last longer.*

FREE CATALOG: Shows the great Orange Line of Aprons and Tapes — also Textile Leathers for weaving.

GRATON & KNIGHT COMPANY
Worcester, Massachusetts
DIXIE LEATHER CORPORATION
Albany, Georgia

GRATON AND KNIGHT Orange® Line

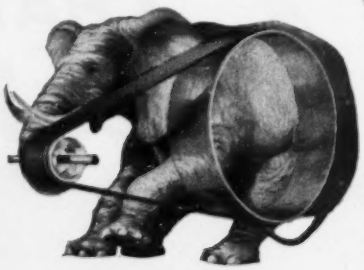
Estab. 1851 T-8

TEXTILE LEATHERS

Shorts and Remnants

You still liked George Buck's article on "Flammable Fabrics Act." Here's even more proof. Glad to be of service.

PULLINGRIP



G&K

Leather Belting grips the pulleys for more production-power

It Grips — Like an elephant's trunk, leather's resilient, frictional surface *grips* the pulley face, causing belt and pulley to move as one power unit.

It Pulls — Leather is strong, flexible, with controlled stretch—gives peak performance on *any* drive.

It's 3-Dimensional — Leather's millions of fibres are interlaced in all directions to form the tough *three-dimensional* structure so necessary for PULLINGRIP — *developed to the highest degree in G&K Leather Belting.*

Call your G&K Industrial Supplies Distributor for flat, round, link and V-belting, belt lacing, dressings, cements, packings and specialty leathers . . . made by Graton & Knight, the world's largest manufacturer of industrial leather products.

Catalog 101 shows RESEARCH®, HEART OAK and SPARTAN® Leather Belting — also special belting for Stripper, Spindle and Universal Winders. It's free.

GRATON & KNIGHT *Company*
WORCESTER, MASSACHUSETTS

Engineered GRATON AND KNIGHT

B-9 Estab. 1851

LEATHER BELTING

LATEST GERMAN NAPPER CONQUERS AMERICAN MARKET!

"Tri"-Nappers

ARE SUPERIOR TO STANDARD MACHINES BECAUSE OF:

- INCREASE IN PRODUCTION UP TO THREE TIMES OF NORMAL OUTPUT
- STEPLESSLY VARIABLE CLOTH SPEED UP TO 40 YARDS PER MINUTE
- STEPLESSLY VARIABLE NAPPING EFFECT
- SUPERIOR NAPPING EFFECT
- FEWER CLOTH RUNS NECESSARY
- ELECTRO-MAGNETIC INSTANT BRAKE

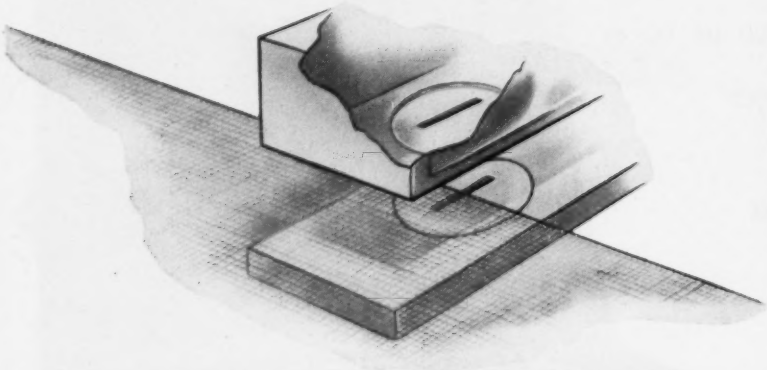
FRANZ MÜLLER

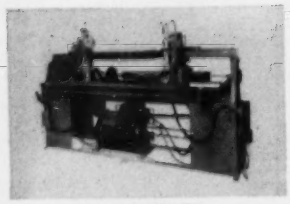
MASCHINENFABRIK • M. GLADBACH • GERMANY

Sole Agents For The North States and Canada: TEXTILE MACHINERY IMPORT CO., INC.
Sole Agents For The South Of U. S.: PARROT & BALLENTINE, 610 South Carolina National Bank Building, Greenville, S. C.

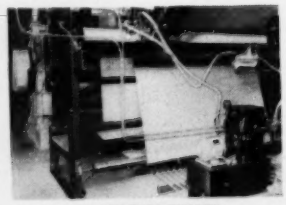
ASKANIA
CLOTH GUIDE CONTROL

Nothing touches the cloth but a breath of air

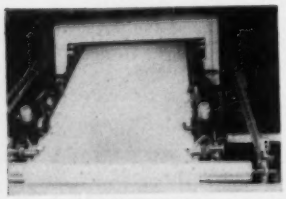




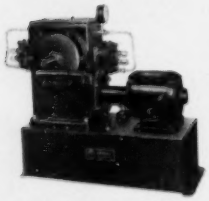
SELVAGE MARKER



PIN TYPE TENTER



CLIP TYPE TENTER



CLOTH GUIDE REGULATOR

The Askania Cloth Guide Control has been tested on hundreds of applications—it's extremely fast, accurate and dependable. It guides fast moving webs with a breath of air. It's an ideal unit to solve your cloth guiding problems on Tenter Frames, Tubing Machines, Folding Machines, Examining Machines, Printing Machines, Slitting Machines, Labeling Machines or Rewinding Machines. Askania Cloth Guide Controls are establishing new standards in the finishing departments of hundreds of Textile Mills. If you have a cloth guiding problem—ask for Bulletin A-161, or call Askania engineers for full details.

ASKANIA REGULATOR COMPANY
260 E. Ontario Street, Chicago, Illinois
Subsidiary of General Precision Equipment Corp.

Shorts and Remnants

Either Way

" . . . . for one of our customers we would like to know the price of an Aide-Memoire (manual, vademecum?) published and available . . . . please let us know if this is available for purchase and in that case, supply the net price including postage or if it is perhaps a free gift only available to subscribers. . . . "

T. D.
Paris, France

► "My Private Secretary" is a premium given with subscriptions to TEXTILE INDUSTRIES; however, it can be purchased outright by those who already get the magazine.

Identification

" . . . . in the article . . . . April . . . . appears on page 170 an illustration of a portable moisture-determination meter . . . . information you can supply regarding identification of this instrument and the manufacturer . . . . "

W. JAMES LYONS
Firestone Tire & Rubber Co.
Akron 17, Ohio

► Instrument for checking the moisture content of wool is made by Moisture Register Company, Alhambra, Calif.

Can Knit Glass Yarns

" . . . . note in your publication May 1954 letter desiring to know if anyone makes a glass fiber yarn that can be knitted on a latch needle machine . . . . kindly advise these people that we are the only ones that can knit any type of glass yarns either on latch needle machines or flat knitting machines . . . . we are producing knitted glass cloth in tubing of various widths and also knitted full-fashioned shaped items. . . . "

SAMUEL GRANOFF
S. Granoff Mfg. Co., Inc.
Providence, R. I.

Leading Fashion Journal

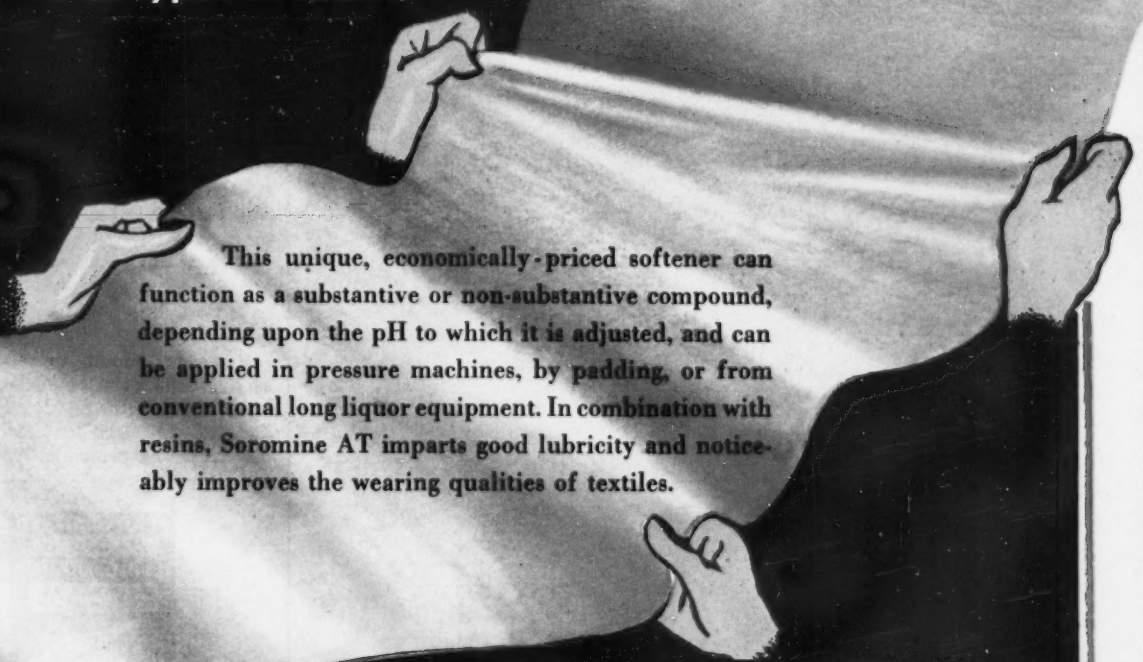
" . . . . understand this journal of yours is one of the leading fashion journals . . . . in order to get an idea will you please send us a specimen. . . . "

S. J. V.
Holland

► We get blamed for lots of things. Specimen on the way; hope it doesn't break in transit.

SOROMINE® AT

The new amphoteric softener that imparts a smooth, supple hand with good body to all types of fabrics.



This unique, economically-priced softener can function as a substantive or non-substantive compound, depending upon the pH to which it is adjusted, and can be applied in pressure machines, by padding, or from conventional long liquor equipment. In combination with resins, Soromine AT imparts good lubricity and noticeably improves the wearing qualities of textiles.

Soromine AT is a white softener suitable for treating bleached white, dyed or printed fabrics. It has no adverse effect on shade or light fastness of dyed materials, and treated fabrics do not yellow during high temperature drying or prolonged storage.

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Mail the coupon today for complete information on Soromine AT

ANTARA CHEMICALS, 435 Hudson Street, New York 13, N. Y.

Please send me your booklet on Soromine AT

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POSITION_____

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COMER'S 20TH YEAR SERVING THE TEXTILE INDUSTRY . . .
For Twenty years Comer's textile machinery market has been
AT YOUR FINGERTIPS

Need machinery? Got some to sell? Call Comer—the company that has spent over 20 years helping mills here and abroad to purchase and sell textile machinery. Comer knows who needs what, and who has it to sell. Whether buying or selling, call on Comer Machinery Company *now*. A single piece, or complete mill properties bought and sold. Cable address: COMACH

COMER MACHINERY

COMER MACHINERY COMPANY

308 Ivy Street, N.E.
Atlanta, Georgia

Personal NOTES

ABOUT MEN YOU KNOW

Frank L. Bradley, engineering manager of Forstmann Woolen Co. and vice-president of Garfield Warehouse and Transportation Co., was recently elected a Fellow of the American Society of Mechanical Engineers.

Harold Clark, formerly superintendent of the Pell City, Ala., plant of Avondale Mills, is now director of the firm's customer technical service. Succeeding Mr. Clark at Pell City is **French O. Whitten.** At the Cowikee Mill No. 3 in Eufaula **Earl Smith** has been appointed to succeed **Brady Rogers** as day supervisor of the mill. Mr. Rogers is now superintendent of both Eufaula plants.

Richard Kendall, previously personnel assistant in Lewiston, Me., for Bates Manufacturing Co., is now at the Edward Division in Augusta, Me., as acting personnel manager.

At the annual meeting of the Quebec section of Canadian Association of Textile Colourists and Chemists, the following officers were elected: **Ernest Bradley,** retired, Magog, Que., honorary president; **Dr. L. J. Sheps,** Trilon Chemicals Ltd., Lachine, president; **L. E. Moody,** Duplan Dyeing Co., Valleyfield, and **C. E. Coke,** Courtaulds (Canada) Ltd., Montreal, vice-presidents; **J. H. Lowe,** Canadian representative of Nova Chemical Corp., N. Y., secretary; and **Dr. A. Greyborn,** Bruck Mills Ltd., Cowansville, Que., treasurer.

Arthur Wiesner, formerly with Cotawol Manufacturing Co. in Lisbon Falls, Me., is now with the firm's Cowan Mill in Lewiston. He succeeds

Keep them spinning clean and free

with Gulfspin

Gulfspin works three ways to keep spindles clean. First, it's oxidation stabilized to resist sludge formation. Second, Gulfspin prevents contaminants from depositing on spindle parts. Third, Gulfspin provides effective protection against rust, especially important in cast-iron bolsters where rusting causes bolster wear.

Because deposits are not a problem with Gulfspin, spindle vibration is kept to a minimum and dampening devices function normally.

And you reduce power costs with Gulfspin! Ordinary spindle oils often thicken after a few months of service, resulting in about one watt per spindle increase in power consumption. Not so with Gulfspin! This outstanding oil shows no increase in viscosity after many months of service.

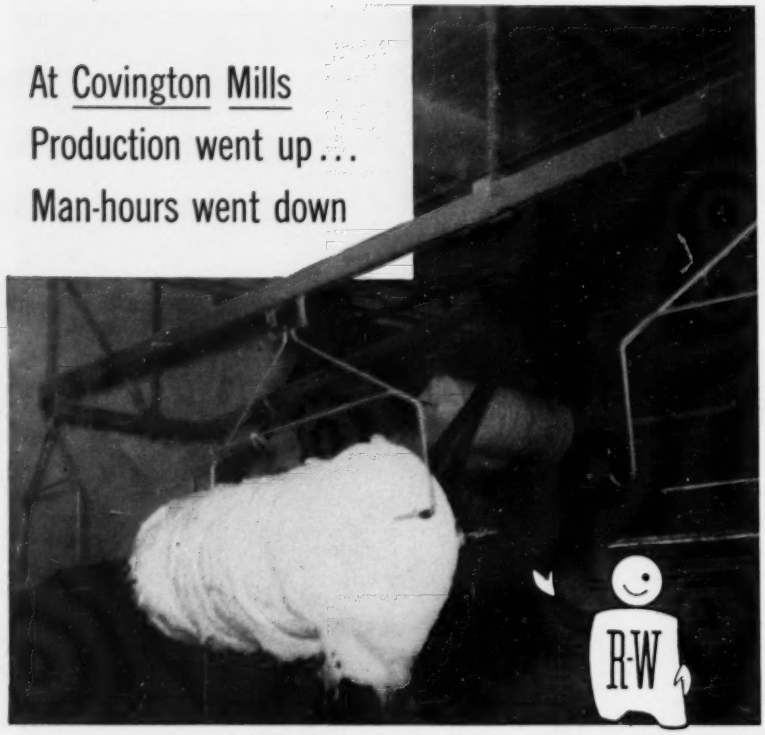
Won't you give us a chance to prove the advantages of Gulfspin on at least one of your frames. Write, wire, or phone your nearest Gulf office and ask a Gulf Sales Engineer to call.

GULF INDUSTRIAL LUBRICATION

Gulf Oil Corporation • Gulf Refining Company

Gulf Building, Pittsburgh 30, Pa.

At Covington Mills
Production went up...
Man-hours went down



Picker laps being transported between departments at Covington Mills.

...and an R-W "Zig-Zag"® Continuous Power Conveyor did the trick!

Not long ago, Covington Mills, Covington, Georgia, faced a serious problem. Production was increasing, yet the transport of picker laps from one department to another was becoming a major bottleneck. Pickers were under the card room in the basement and laps were carried by elevator. The set-up required two pickers, operated in three shifts.

The answer . . . a Richards-Wilcox ZIG-ZAG Continuous Power Conveyor, operating from the opening room, over the top of the weave room to the card room, thus eliminating the need for a third shift in the opening and picking departments and reducing man-hours required for the operation.

The experience of Covington Mills is typical because ZIG-ZAG is designed for maximum flexibility and versatility and it's quality manufactured for longer, lower cost operation. With carrying pendants located on 6-inch centers, ZIG-ZAG is designed to handle any load a man can lift in continuous production. A choice of drive units permits travel at any required speed with variations of 10 to 1 or better. And ZIG-ZAG is easily altered or relocated by plant personnel to meet changing production or space requirements, in most cases using all the parts.

A ZIG-ZAG Conveyor may be needed in your operation. It means more production and lower costs.

Why not write for complete details today—or consult an R-W Engineer, at no obligation, of course.

1880 RICHARDS WILCOX R-W AURORA 1954

SLIDING DOOR HANGERS & TRACK • FIRE DOORS & FIXTURES • GARAGE DOORS & EQUIPMENT • INDUSTRIAL CONVEYORS & CRANES • SCHOOL WARDROBES & PARTITIONS •

Richards-Wilcox Mfg. Co.
MATERIALS HANDLING DIVISION
Branches in Principal Cities

440 W. THIRD STREET, AURORA, ILLINOIS

Personal NOTES ABOUT MEN YOU KNOW

Don Beal, superintendent, who is back at Lisbon Falls.

J. Philip Cleaveland, superintendent of Callaway Mills Co.'s Unity plant, was recently elected president of the LaGrange, Ga., Lion's Club.

W. J. Holman, Jr., was recently named president of Chicopee Manufacturing Corp. The offices of executive vice-president and treasurer have been given to **George C. Riegger. G. O. Lienhard,** formerly president, is now chairman of the board.

Dino Botto, formerly overseer of weaving at Meadox Weaving Co., Waldwick, N. J., has joined Classic Weaving Co., North Bergen, N. J., in a similar capacity.

Lewis M. Heflin was recently appointed executive vice-president of Cone Mills, Inc. He continues as secretary. **Thomas R. C. Hood** and **Robert C. Shaw** have been elevated to vice-presidents. Mr. Heflin was also recently named new chairman of the financial group of The Association of Cotton Textile Merchants of New York.

C. P. Mangion was recently named director of research and development at Dodgeville Finishing Co., Attleboro, Mass.

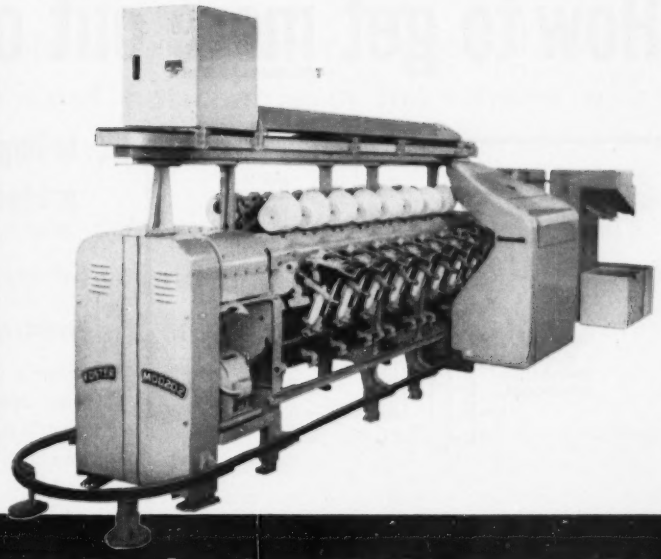
Lewis Cook is now overseer of spinning at Eastland Woolen Mills, Corinna, Me.

Two new members elected to the board of directors of The Felt Association are: **John Murray,** assistant general manager of Standard Felt Co., Alhambra, Calif.; and **C. A. Hubner,** president of Central Felt Co., Inc., New York.

Billy B. Olive, formerly with Westinghouse Electric International Co., has joined Fieldcrest Mills as patent engineer. **James E. Williams, Jr.,** has been appointed chief cost accountant, replacing C. W. Walker, resigned.

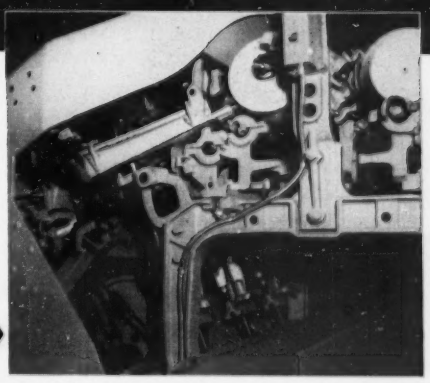
1954 winner of the Keever Starch Company scholarship at the N. C. State College School of Textiles was **Marvin Boyd Crow** of Lexington. The award is presented annually to the outstanding senior entering textile

FOSTER
Model 202
AUTOMATIC CONE WINDER

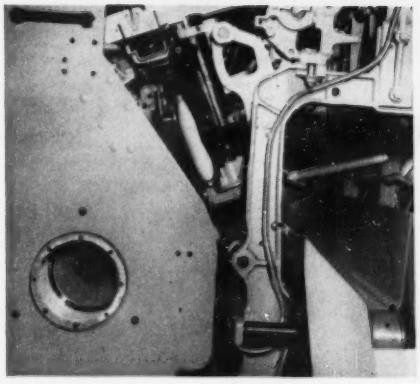


Here's Why It Increases Production 100% to 300%

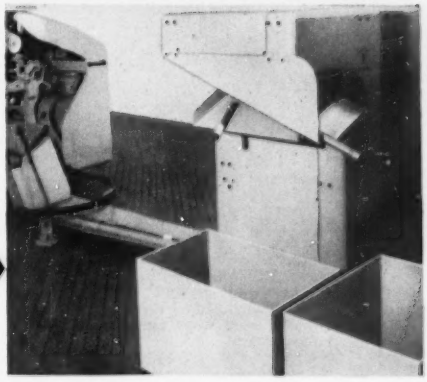
Operator's only duties are to drop full bobbins in chutes, put loose end in clip, don and doff cones and thread up new ones as needed.



Automatic tender travels around machine on rails — aspirator ignores end that is running, picks up ends down, which are then tied into weaver's knots.



Full bobbin moves into supply position from chute, as empty bobbin is automatically doffed.



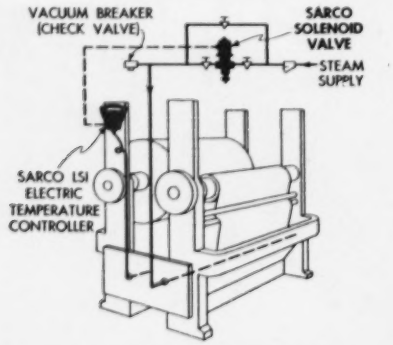
Model 202 automatically sorts partially filled and empty bobbins, conveying them to two separate bins.

Automation increases production vastly over non-automatic winders — and for the first time automatically produces cones satisfactory for knitting, identical in quality to those produced on Foster Model 102. Write for full details.

FOSTER MACHINE COMPANY
Westfield, Massachusetts, U. S. A.

Southern Office, Johnston Bldg., Charlotte, N. C. • Canadian Representative, Ross Whitehead & Co., Ltd., 1475 Mountain St., Montreal, Que., and 35-37 King St., W. Toronto • European Representative, Muschamp Textile Machinery Ltd., Keb Lane Bardsley, Ashton-under-Lyne, England.

How to get more out of process steam



Man-hours Saved, Dyeing Jobs Improved With Sarco Temperature Controller

Installation: Dye Jigs, V. T. M. Finishing Corporation, Paterson, New Jersey.

Problem: To get uniform dyeing of cloth from end to end by eliminating temperature creeping caused by manual control of steam valves.

Solution: Above LSI Electric Temperature Controller hook-up which maintains dye bath to within ±1° F. of desired temperatures. Simple turn of a knob changes temperature setting for each run of cloth through dye bath.

Results: Automatic, uniform control of bath temperature which assures even dye shade of piece throughout.

In addition, operator is no longer tied down to one jig. Previously, he had to watch the thermometer and frequently adjust the steam valve. Now, he simply sets the Sarco automatic Temperature Controller for each run, has time to operate additional jigs.

Inexpensive Sarco Electric Temperature Controller can hold temperatures to ±1° F. Setting easily changed by turning only one knob. Send today for Bulletin 1025.

. . . to improve product quality, reduce production costs, eliminate bottlenecks

Make sure the steam traps and temperature controls on your process equipment have been properly specified and installed.

Here's why! Very often when production schedules are upset and steam costs seem relatively high, you'll find the trouble is not with the process equipment . . . *but with the way steam is used!*

Avoid These Production Headaches

The wrong type of trap can cause waterlogging and keep equipment from reaching and maintaining proper temperatures. Result: production slow-downs and waste of steam. Air film caused by inadequate venting drastically reduces heat transfer and prolongs processing time. Erratic temperature control is often the cause of rejects or product spoilage and further raises production costs.

Call In Sarco

Plant after plant has benefited from Sarco's experience in the process industries. Backed by a complete line of steam traps and temperature controls, Sarco engineers are able to offer you impartial, expert recommendations on how to *get more out of process steam.*

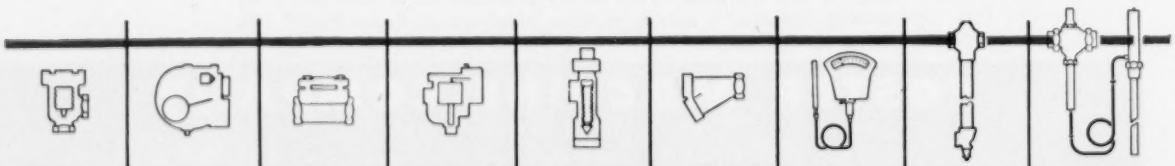
For case histories describing how other plants in your field solved similar problems, write today to Sarco Company, Inc., Empire State Bldg., New York 1, N. Y.

SARCO

improves product quality and output

2060-C

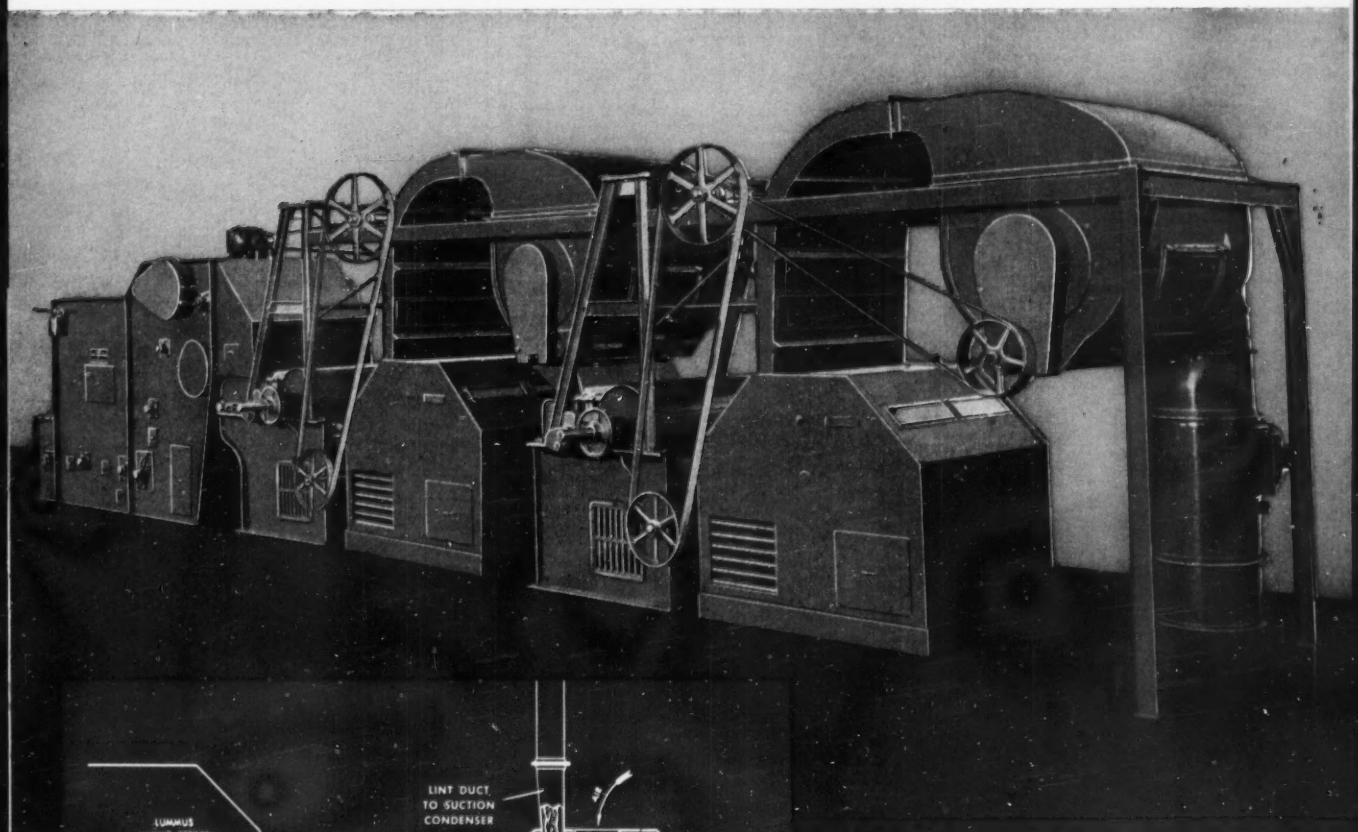
STEAM TRAPS • TEMPERATURE CONTROLLERS • STRAINERS

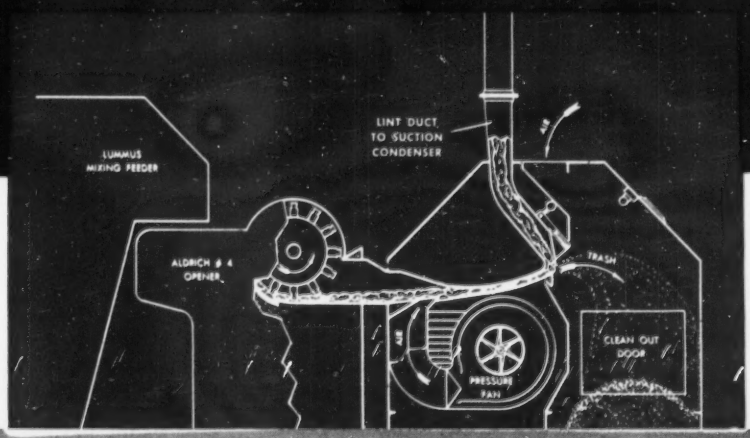


Thermostatic Steam Traps | Float-Thermostatic Steam Traps | Thermodynamic Steam Traps | Camlift Bucket Steam Traps | Liquid Expansion Steam Traps | Strainers | Electric Temperature Controllers | Water Blenders | Self-Operated Temperature Controllers

To clean cotton it is desirable to take trash *out whole*. Merely breaking it up so fine that it is not noticeable in the sample will not keep it from showing in the yarn.

The Super-Jet Cotton Cleaner contains no saws or pin beaters to break up the trash to make neps and pepper. It cleans with air currents, and can not injure the lint or pulverize the foreign matter.





If you have not seen these machines in operation, we would like to show them to you.

ALDRICH-LUMMUS CLEANING SYSTEM

Made by LUMMUS COTTON GIN CO. Columbus, Ga. and ALDRICH MACHINE WORKS Greenwood, S. C.

Sold and Installed by AldricH MachinE Greenwood WorkS South Carolina

RESULTS

THAT'S WHAT YOU EXPECT FROM SIZING COMPOUND

SERVICE and EXPERIENCE

THAT'S WHAT YOU SHOULD GET FROM THE MANUFACTURER

FRANK G. NORTH, INC. GIVES YOU BOTH!

You *must* have good results from your sizing compound . . . the entire weaving operation depends on it! And you can depend on Frank G. North, Inc. for size that *produces* good results.

Frank G. North, Inc. is one of the largest manufacturers of sizing compounds, gums, waxes and other kindred products for weaving yarns in the nation. Our men can assist you in technical and practical matters relating to size. They have the experience and are anxious to be of service. Call on them today!

FRANK G. NORTH INCORPORATED

MANUFACTURING CHEMISTS

Atlanta, Ga. • P. O. Box 123, Sta. A • Phone RAymond 2196
Marietta, Ga. • P. O. Box 92 • Phone Marietta 9-4323

Personal NOTES ABOUT MEN YOU KNOW

manufacturing and is valued at $400. Mr. Crow has accepted a position with the Dunean plant of J. P. Stevens & Co. in Greenville, S. C.

E. F. Sweeney, manager of Firestone Textiles, Bennettsville, S. C., recently celebrated his 30th anniversary with Firestone Tire & Rubber Co. He was presented a 30-year service pin and a $100 check from

Lee R. Jackson (left) president of Firestone. Looking on at the presentation was **W. A. Karl** (right) president of Firestone Textiles.

James Wilson was recently elected a vice-president and general manager of Forstmann Woolen Co. He will be in charge of production activities.

Mark Sears is now boss carder at Guilford (Me.) Woolen Mills

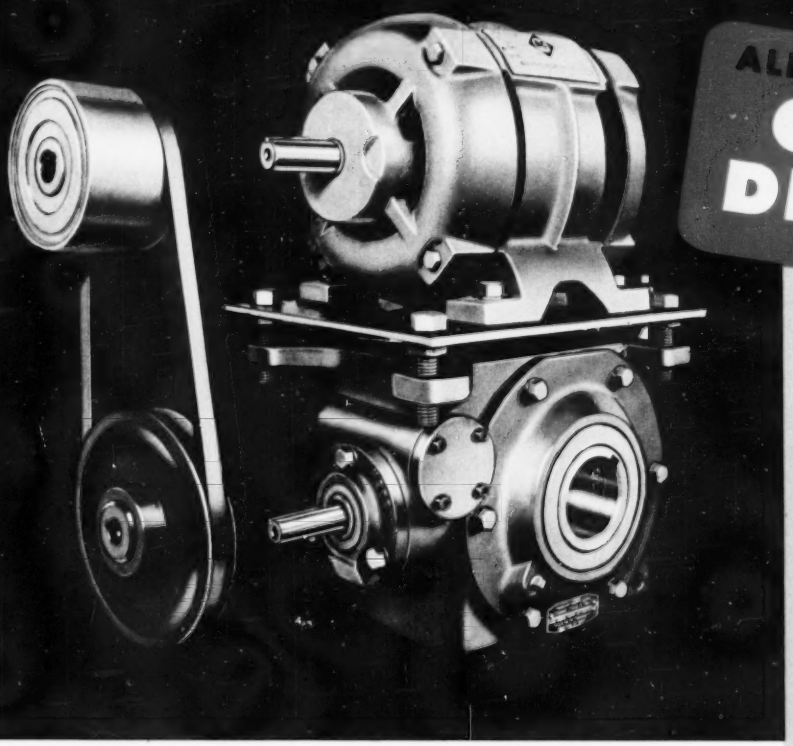
W. E. Dunn has been made general plant superintendent of Huntsville (Ala.) Manufacturing Co. He was previously with Monarch Mills.

J. Rollins Jolly has succeeded J. H. Daughdrill as president of Kingston Mills, Cartersville, Ga.

Clifton Allen has succeeded Arthur Babbitt, resigned, as general manager of Monument Mills, Inc., Housatonic, Mass.

Curtis C. Deardorff has been named an assistant treasurer of James Lees and Sons Co.

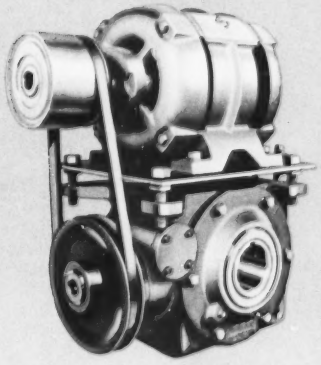
Recently named general superintendent of Lane Cotton Mills, New Orleans, La., was **C. Gooden Jenkins.** He was previously with Profile Cotton Mills. **Clarence A. Barrett** was named assistant superintendent, transferring from the synthetic division at Lyons' Mill, Anderson, S. C. General overseer of the finishing and



ALLIS-CHALMERS

CARD DRIVES

Quick-Clean motor used to drive gear reducer through Texrope V-belt drive and mercury clutch. Sheave is adjustable to permit cylinder speeds between 157 and 189 rpm.



Now

Control Cards Individually . . .

Make Card Rooms Cleaner and Safer!

INDIVIDUAL CARD DRIVES solve problems in cleanliness, safety and lighting created by overhead line shafting. With these drives, there is no hard-to-reach overhead structure to clean . . . no dirt and grease to drop into machines.

In addition, your plant will be lighter, cleaner and more modern looking without a forest of shafting and belting hanging from the ceiling. And, with these drives, there's plenty of room on the ceiling for air-conditioning equipment.

Changing to Allis-Chalmers individual card drives is simple. The complete drive unit mounts on your present card cylinder shaft. A torque arm attached to the card keeps it in place. It fits present aisle space. Note that there is no vibration or strain on the card arch, and weight of the drive does not overload the bearing.

Get details from your nearby A-C office, or distributor, or write Allis-Chalmers, Milwaukee 1, Wisconsin for Bulletin 51B7867. A-4411

Texrope and Quick-Clean are Allis-Chalmers trademarks.

ALLIS-CHALMERS

MILWAUKEE 1, WISCONSIN

A-C ALLIS-CHALMERS

New Motor sets new standards in handling oscillating loom loads

HERE IS A loom motor specifically designed to carry the loads imposed by speeds of 200 picks per minute. Rotor, stator and bearings all are oversize to give you long life, and low operating costs.

This Allis-Chalmers loom motor is designed around the findings of a thorough research program which revealed the true nature of loom loads.

As a result, this entirely new motor will handle the rapidly oscillating load which occurs during each pick. The rotor has been made extra heavy and in the largest possible diameter to provide maximum fly wheel effect (Wk^2) to meet demands for higher and higher loom speeds.

While this motor is a completely new design from top to bottom, it has been in actual use in quantity for well over a year.

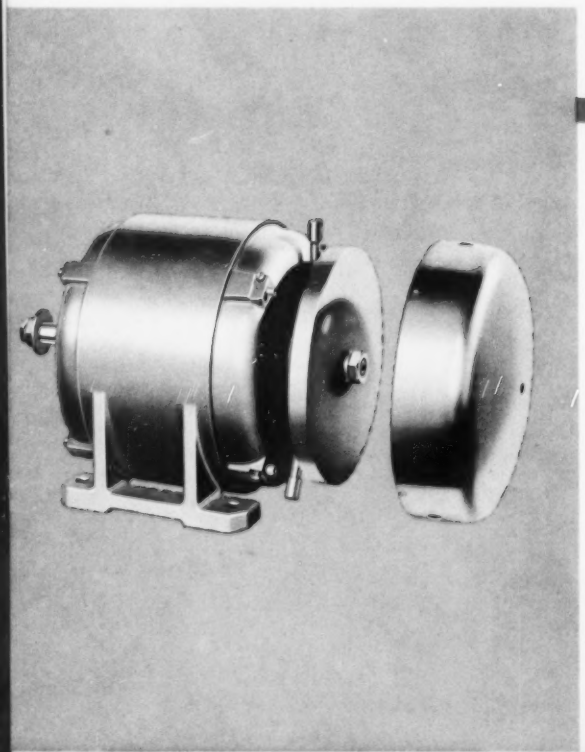
DESIGN FEATURES

1 Motor is totally enclosed, non-ventilated . . . excludes all lint from interior. Both the yoke and bearing housings are cast iron.

2 Stator is double insulated and extra large with heavy construction to meet stress of rapid load oscillation. Stator laminations are welded across back to provide rigid core.

3 Die cast rotor is of largest practical diameter. Maximum inertia in rotor plus proper design of slip makes motor operate at stable speed under pulsating load.

4 Ball bearings are oversized and of double-shielded type. (See illustration upper right.) This allows controlled migration of grease in and out of bearing, yet protects against overgreasing —the greatest cause of bearing trouble. (Optional waste-packed sleeve bearing construction shown at lower right.)



Flywheels Available for Added Inertia (Wk2)

Allis-Chalmers loom motors are available in three inertia categories: more than 1 lb-ft², more than 2 lb-ft², and more than 3 lb-ft². Flywheels are available for two and three pound groups. Both of these flywheel models have the same flywheel cover and same dimensions.

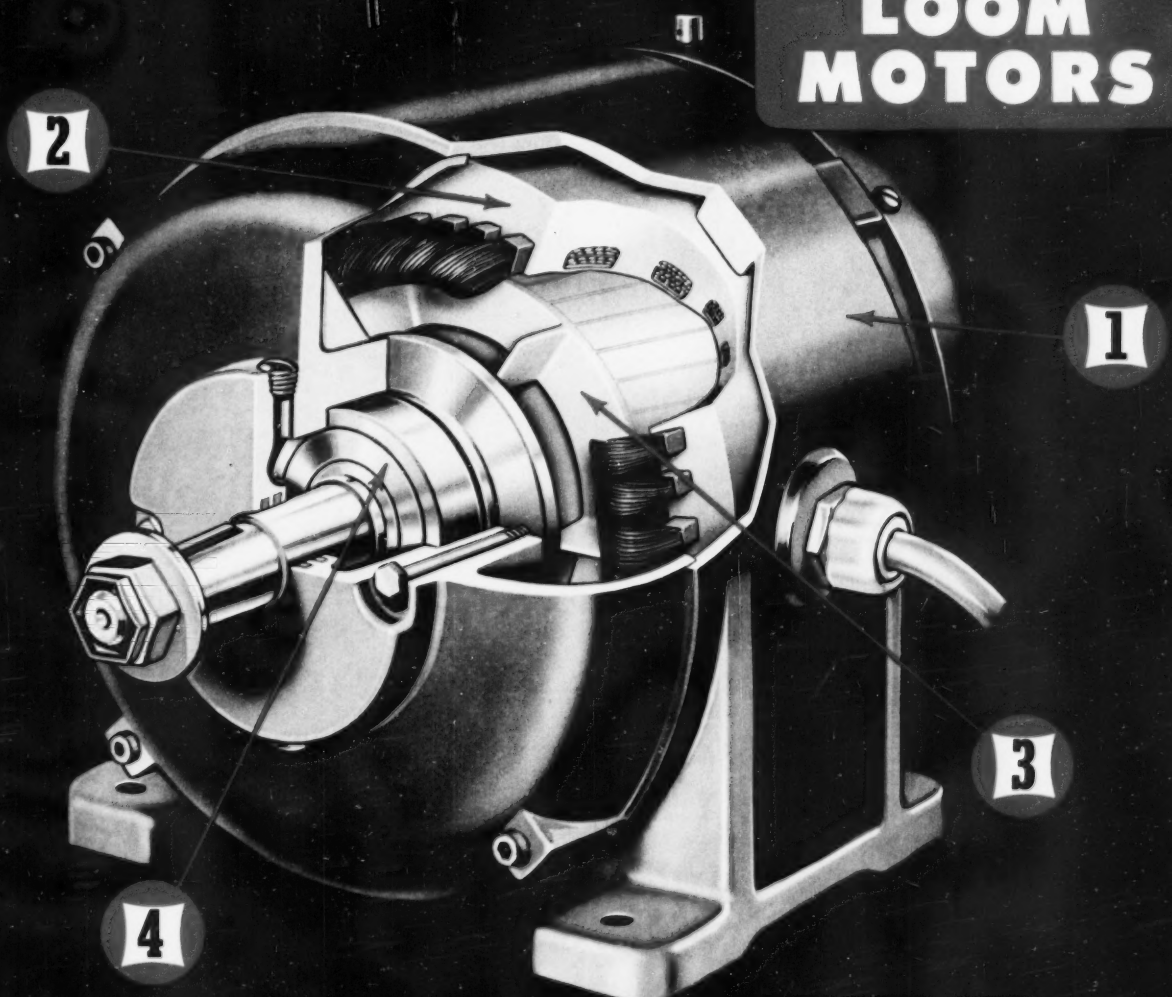
Get information from your nearby Allis-Chalmers office or distributor, or write Allis-Chalmers, Milwaukee 1, Wisconsin, for Bulletin 51B7111B.

A-C ALLIS-CHALMERS

ALLIS-

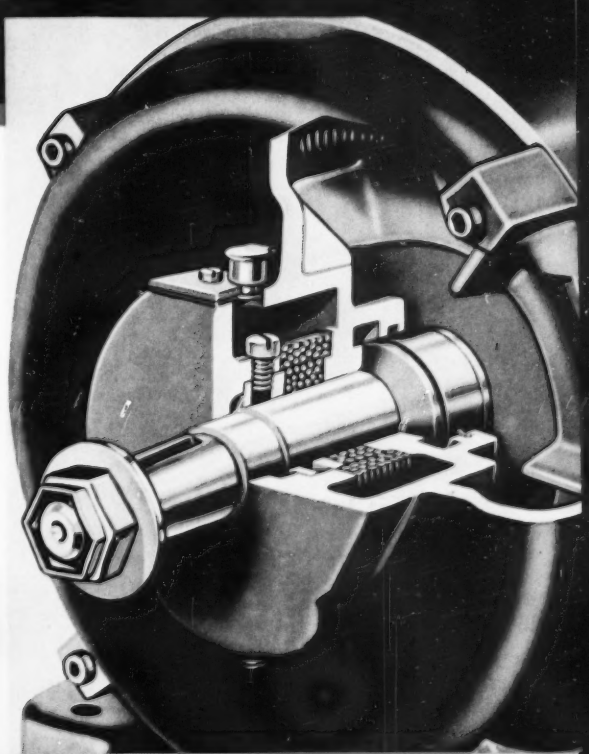
ALLIS-CHALMERS

LOOM MOTORS



Optional — Waste Packed Sleeve Bearing

Wool waste saturated with oil is used to lubricate shaft and bronze sleeve. Slot in upper side of sleeve permits waste to come in direct contact with load carrying area of shaft. Spring-lidded oil cup is provided on top side of bearing to simplify oiling. Waste can be removed easily by removing plate on top of bearing housing. Excess oil drains to outside to prevent damage to windings.

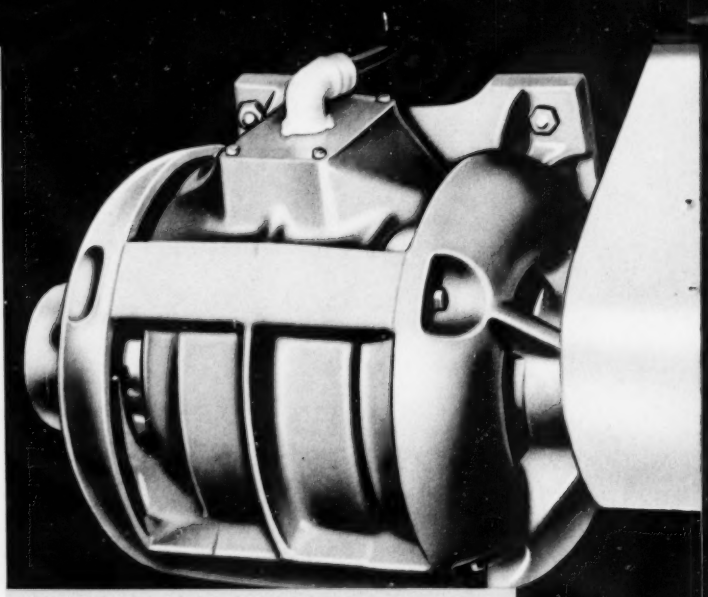


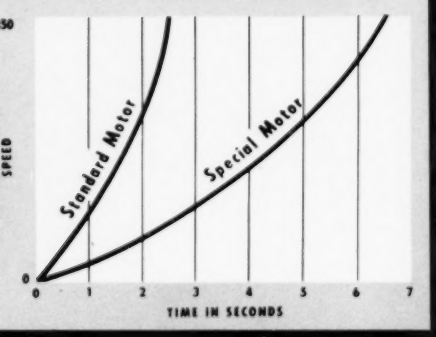
CHALMERS

Slow, Smooth Starts — Without Special Control

Smooth acceleration, fine jogging using Allis-Chalmers roving frame motor, reduces ends down, helps produce uniform roving. No special resistors—no acceleration reducing clutches — no special control required.

These motors take almost three times as long to accelerate as a standard motor. E-v-e-n tension is provided on the roving frame during starting periods. Special conduit box connections permit relatively high torque when required, such as during frame break-in period.





ALLIS-CHALMERS
Roving Frame Drives

Get Specialized Control Engineered with the Drive

A LINE of full voltage and reduced voltage motor starters is available to meet the requirements of any type of textile motor drive.

Typical is this new loom motor manual starter. Its toggle action is preferable to push button operation for reasons of convenience when mounting starter in high or low positions.

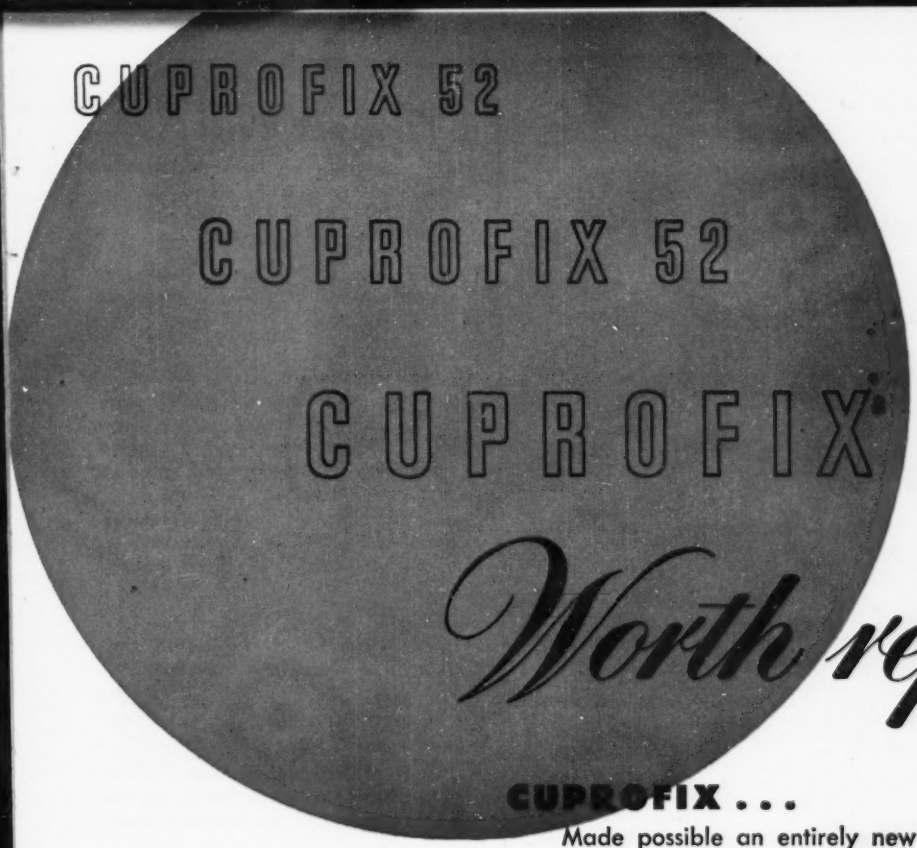
Loom switches and slow speed starters for card drives, and roving frame drives are also available.

Solve your control problems along with your drive problems by calling an Allis-Chalmers Authorized Distributor or District Office. Or write Allis-Chalmers, Milwaukee 1, Wisconsin.

ALLIS-CHALMERS

MILWAUKEE 1, WISCONSIN

A-C ALLIS-CHALMERS



Worth repeating

CUPROFIX . . .

Made possible an entirely new method for achieving fast colors on synthetic fabrics.

CUPROFIX "52" . . .

Enables the dyer to continue to deliver first grade quality at an even lower cost.

CUPROFIX AND SANDOFIX . . .

Are evidence of Sandoz' intention to remain the leaders in this field.

If you've ordered CUPROFIX 52 before, you know it's an order worth repeating. If you haven't, any Sandoz representative will be glad to show you how this improved Cuprofix helps you deliver first-grade quality at lower cost than ever before. Sandoz branches in Hudson, Mass.; Fairlawn, N.J.; Philadelphia; Charlotte; Cincinnati; Los Angeles; Montreal; Toronto. Sandoz Chemical Works, Inc., 61 Van Dam Street, New York 13, N.Y.

B.3.6

SANDOZ

SANDOZ

THINKS AHEAD WITH TEXTILES

EPI BOBBIN

At 15,000 RPM
Balance is Vital

Todays winding and twisting bobbins for Nylon and other tenacious yarns run up to 15,000 RPM . . . almost double the top speeds of 10 years ago. At these tremendous speeds a bobbin which is not properly balanced can become a very expensive investment.

Balance is vital because even the tiniest variation in materials, machining, or assembly results in undue spindle and machine wear, and in uneven wind. Since much of this damage is done before the defect becomes noticeable to the naked eye, it will pay you to standardize on EPI Bobbins, because every EPI Bobbin is dynamically tested and balanced before it is shipped.

Write, wire, or call for full information on how the EPI Bobbin saves on spindle and machine maintenance and produces better packages.

STRENGTH

Concentric construction and the patented* EPI Expanding Lock Ring Assembly give EPI Bobbins unexcelled strength to resist the crushing force of tenacious yarns.

New England Representative: J. H. Windle, Jr., 231 S. Main St., Providence, R. I.

*U. S. Patent 2,625,343

ENGINEERED *Plastics*

INCORPORATED

Gibsonville, North Carolina

Personal NOTES ABOUT MEN YOU KNOW

cloth room is **William P. Paul,** formerly with J. P. Stevens & Co. at Rock Hill, S. C.

Adrian Shuford, Jr., president of Conover (N. C.) Knitting Co., was recently elected chairman of the board of the National Association of Hosiery Manufacturers. Vice-chairmen elected were **Ferdinand K. Thun,** president of Berkshire Knitting Mills, Reading, Pa., and **Grayson Harralson,** treasurer, Princeton (Ky.) Hosiery Mills, Inc.

Brig. General R. P. Hollis, commander of NYQMPA, was recently appointed to the rank of major general.

E. D. Walen, vice-president of Pacific Mills, Lawrence, Mass., is the new president of the National Asso-

Mr. Walen

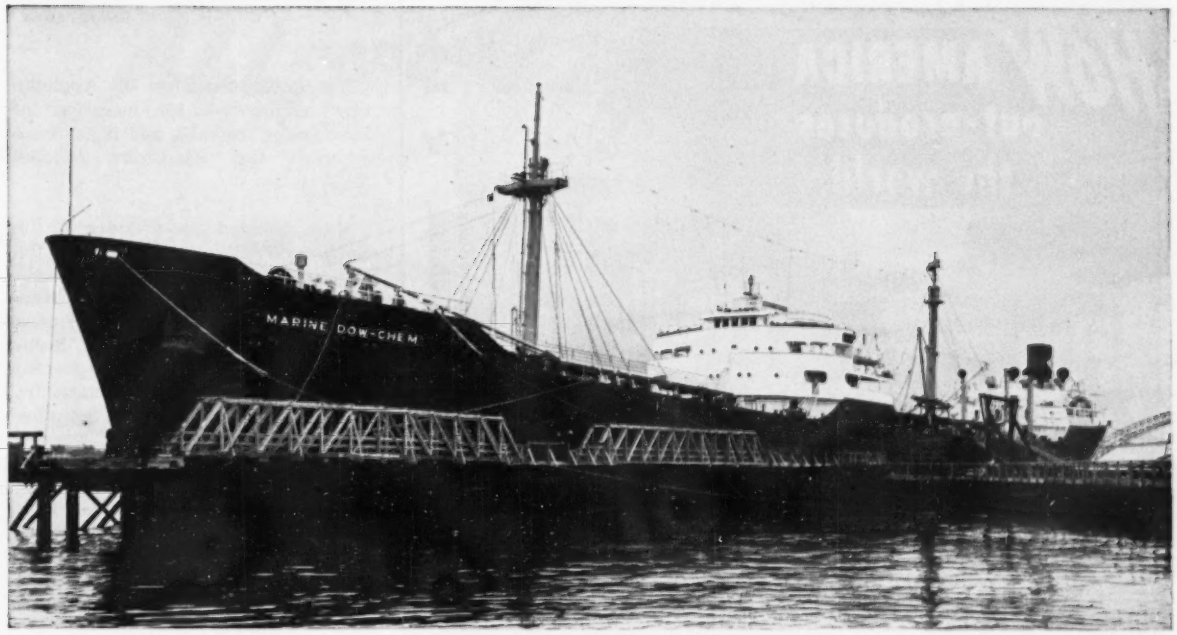
ciation of Wool Manufacturers. New vice-presidents are: **Everett L. Kent,** Kent Manufacturing Co., Clifton Heights, Pa.; **John L. Hutcheson, Jr.,** Peerless Woolen Mills, Rossville, Ga.; **John H. McGowan,** Wyandotte Worsted Co., Waterville, Me.; and **T. B. Nelsen,** Clinton (Mich.) Woolen Manufacturing Co.

Earle J. Wentz, Jr., formerly with Hanes Knitting Co., has been named assistant manager of Roanoke (Va.) Mills, Inc.

Rudolph M. Hirschwald has succeeded Stanton D. Sanson, resigned, as president of Sanson Hosiery Mills, Inc., Allentown, Pa.

Ralph Wirth has been elected president and manager of Appleton Woolen Mills Co., Reedsburg, Wis. The company was purchased by the peo-

DOW



S. S. Marine Dow-Chem on first arrival at expansive Bayonne Terminal.

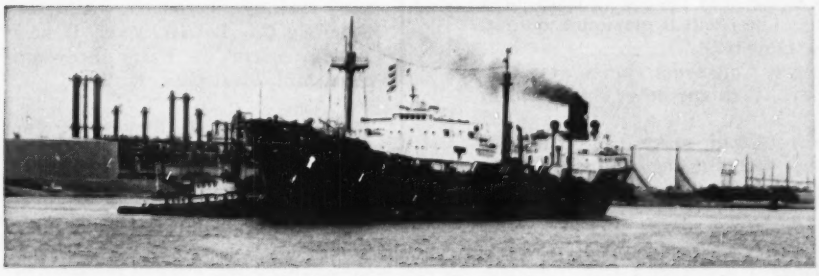
New Dow Ship and New Dow Terminals

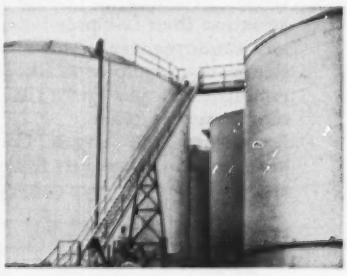
speed volume delivery of 73% caustic soda to users

The Dow Chemical Company now has extensive new caustic soda solution distribution facilities in operation. The *S. S. Marine Dow-Chem*, first tanker ever designed and built exclusively for the sea transportation of liquid chemicals, currently delivers 73% caustic soda in volume quantity to two new Atlantic seaboard bulk terminals, located at North Charleston, S. C. and Bayonne, N. J. Both this thoroughly modern 18,000-ton chemicals carrier and all terminal facilities for cargo unloading, storage and transshipment safeguard the uniform high purity of Dow's 73% caustic solution.

One hundred thousand pounds of commercially pure nickel were used in construction of the *Marine Dow-Chem's* caustic cargo tanks, pumpline and heating coils. Terminal storage tanks are fully nickel-clad, all loading and unloading pumps and lines are pure nickel. Nickel steam heaters keep 73% solution at the exact temperature desired.

This important distribution expansion means that Dow customers are assured even faster delivery—*another* good reason for placing that caustic order with Dow. THE DOW CHEMICAL COMPANY, Midland, Michigan.

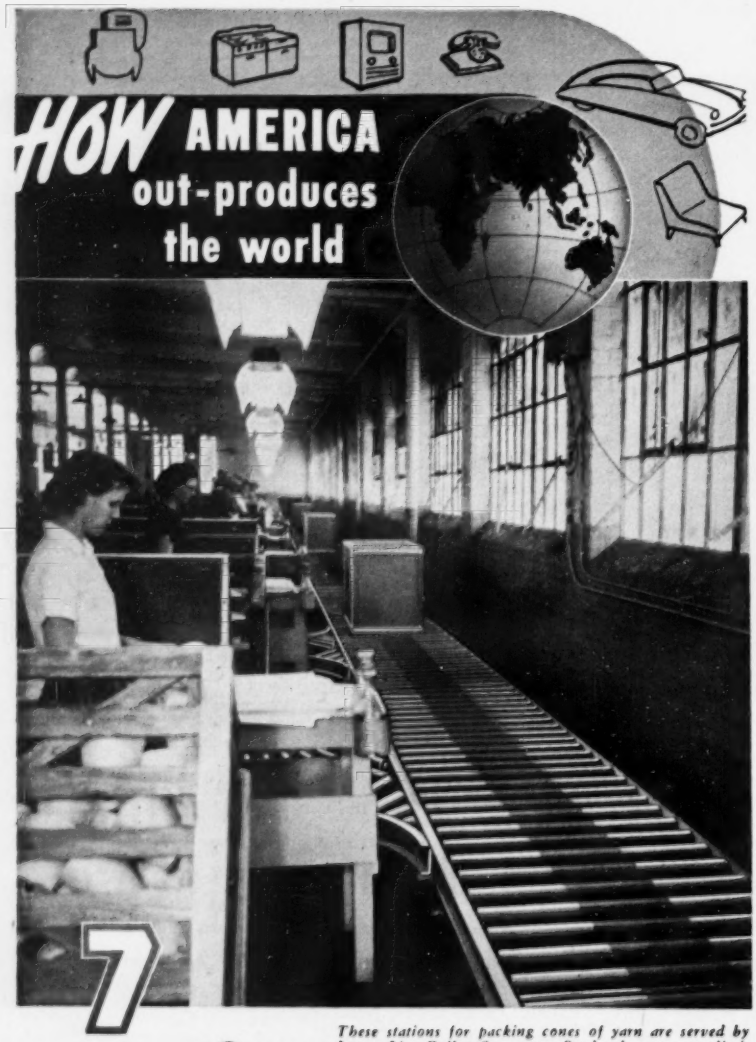




New flagship of extensive Dow waterways fleet begins maiden voyage from Freeport . . . new nickel-lined tanks at Bayonne protect 73% caustic purity during storage.

you can depend on DOW CHEMICALS

DOW



These stations for packing cones of yarn are served by Logan Live Roller Conveyor. Set level, conveyor eliminates waste motion in handling filled cases to shipment.

American Industry — "Sets a fair and productive pace for operations"

Pace-making standards are as essential to industry as the air we breathe. The American textile manufacturer knows this intuitively. Probably no one factor in his busy routine receives more attention than fair pace-making. The result is maximum output, and employee satisfaction at the same time.

Remember, equipment like Logan Conveyors comes nearer to establishing a fair "pace that pays" than any other equipment in today's textile plant.

Equipment like Logan Conveyors can make the difference between profit and loss for many plants in the competitive days ahead. What are your conveyor needs?

Logan Conveyors

LOGAN CO., 206 CABEL ST., LOUISVILLE, KY.

Personal NOTES ABOUT MEN YOU KNOW

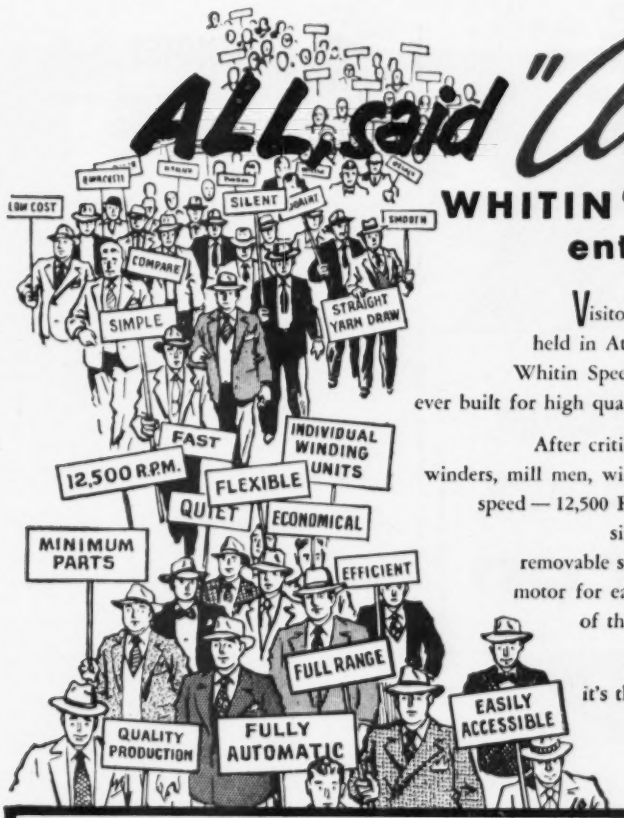
ple of Reedsburg when the Appleton firm announced its intention of abandoning the mill, and it has been renamed the Reedsburg Woolen Mills, Inc.

Newly elected vice-president of the Northern Textile Association and the National Association of Cotton Manufacturers, is **Melville Weston,** president of Newmarket Manufacturing Co., Lowell, Mass. **William F. Sullivan,** Belmont, Mass., was re-elected president and **Malcolm G. Chace, Jr.,** president of Berkshire Fine Spinning Associates, Inc., Providence, was re-elected a vice-president of both associations. Directors elected were: **Laurence N. Hale,** president, Paul Whitin Manufacturing Co., Northbridge, Mass., one year term; **William H. Hubbard,** vice-president, Wm. Skinner & Sons, Holyoke, two-year term; **Lawton S. Brayton,** assistant treasurer, Sagamore Manufacturing Co., Fall River, who is the retiring vice-president of the Associations, three-year term; and **Ward Cheney,** president, Cheney Bros., Manchester, Conn., three-year term.

Ellison S. McKissick of Alice Manufacturing Co., Easley, S. C., is the newly elected president of the South Carolina Textile Manufacturers Association, succeeding Marshall C. Stone of Pacolet Manufacturing Co., Pacolet, S. C. **F. E. Grier,** president of Abney Mills, Greenwood, S. C., succeeds Mr. McKissick as vice-president. Directors elected for a three-year term are: **J. C. Self, Jr.,** Greenwood (S. C.) Mills; **W. A. L. Sibley,** Monarch Mills, Union, S. C., and **E. R. Stall,** Cone Mills Corp., Greenville, S. C.

John Atkinson, superintendent of the recently liquidated Atkinson Spinning Co., Lowell, Mass., is now superintendent of Harry Schwartz Yarn Mill, Sloatsburg, N. Y.

News from J. P. Stevens & Co., Inc.:—**P. W. Nipper, Jr.,** superintendent of Jonesville (S. C.) Mills, has been made superintendent of Piedmont (S. C.) Manufacturing Co. Succeeding Mr. Nipper at Jonesville is **Clarence Fisher,** general overseer of weaving at Piedmont's No. 1 plant. **Richard V. Healy,** plant engineer of the Franklin (N. H.) and Tilton Mills, has been appointed supervising engineer of the northern division, M. T.



ALL said "Aye!"

WHITIN Speed-Matic Winder enthusiastically endorsed

Visitors to the American Textile Machinery Exhibition held in Atlantic City April 26-30, unanimously elected the new Whitin Speed-Matic Winder the finest filling bobbin winder ever built for high quality production *at the lowest possible winding costs.*

After critical and exhaustive comparisons of all competitive winders, mill men, winder technologists, and mill executives acclaimed the speed — 12,500 R.P.M.; the completely automatic performance; the simplicity of construction; the accessibility of the easily removable sub-assemblies; the efficient special brake-clutch motor for each individual unit; and the unmatched flexibility of the Whitin Speed-Matic Filling Bobbin Winder.

For the best in filling winding at the lowest cost — it's the Whitin Speed-Matic. The *facts* show that it will produce the most profits and most quickly.

Whitin Speed-Matic Automatic Filling Bobbin Winder, Loader, and Pin Boarding Unit.

Complete description available on request to Dept. B, Whitin Machine Works, Whitinsville, Mass.

Whitin MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS

CHARLOTTE, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.

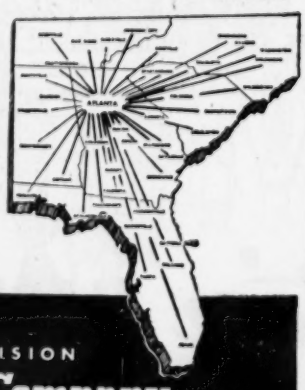
One of the South's largest varieties of steel warehouse products assures you of in-stock items. 15 main line railroads and 75 major motor freight lines assure you of rapid delivery. Add the South's most modern warehouse facilities and you have a combination hard to beat when you need steel in a hurry—one piece or a carload. Call us and see what service *really* means.

FREE!

GET YOUR COPY

For the latest copy of our complete catalog, write or call, and we'll be glad to send you one immediately.

24 TO 48 HOUR DELIVERY
Throughout the South
BY TRAIN • BY TRUCK



AMERICAN STEEL BETTER DISTRIBUTION WAREHOUSE ASSOCIATION

WAREHOUSE DIVISION
Atlantic Steel Company
575 14th STREET, N.W. ATLANTA 1, GEORGIA • EMerson-3451

Personal NOTES ABOUT MEN YOU KNOW

Stevens & Sons division. **Donald C. Johnston,** former plant manager of Dublin (Ga.) Mills, a unit of M. T. Stevens Southern division, has been appointed superintendent of Franklin (N. H.) Mills. **Thomas D. Bruce,** Mr. Johnston's assistant at Dublin, will be in charge of operations at that mill.

E. Allen Bentley has been elected vice-president of Swift Manufacturing Co., Columbus, Ga. He has been superintendent since 1946, and associated with the company since 1938.

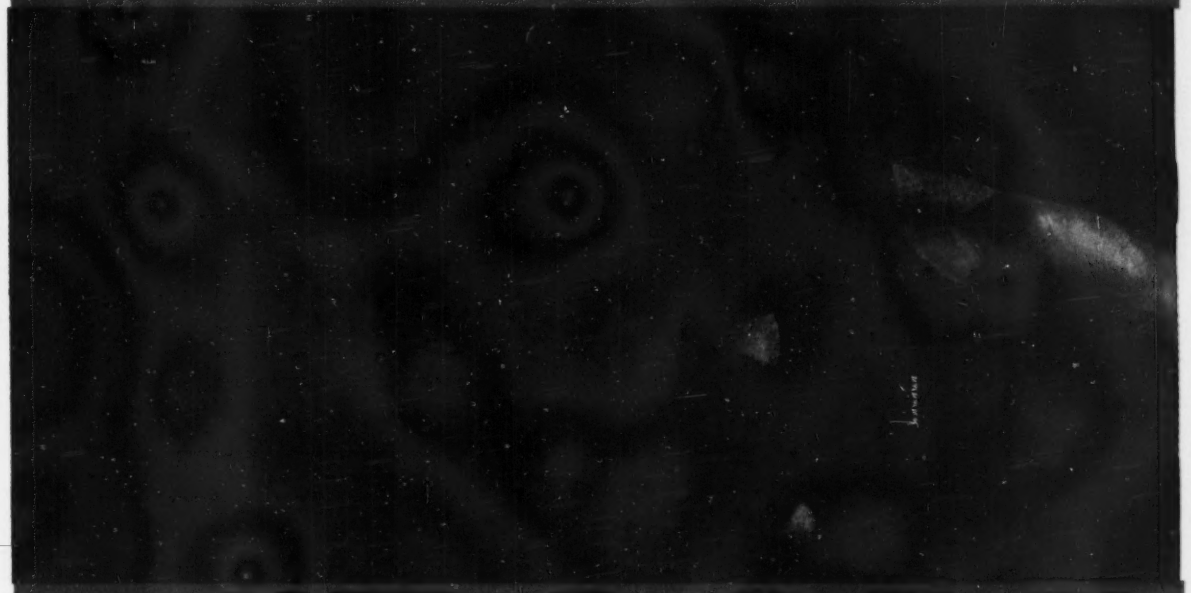
Mr. Bentley

Margaret Hayden Rorke has retired as secretary and managing director of the Textile Color Card Association. **Estelle M. Tennis** has been made executive secretary, and will assume Mrs. Rorke's responsibilities.

The annual Award for Merit given by the Research Institute of America's Associate Member Division, has been awarded to **P. H. Burrus, Jr.,** vice-president of Jackson Mills, Wellford, and Iva, S. C., for his "contribution to executive skills in 1953". A citation was also presented to Jackson Mills in recognition of the fact that "companies where ideas are produced make the most effective contribution of all to the general well-being of business." The awards, a bronze medallion for the individual and a citation for the company, are given annually to bring out ideas developed during the working day in areas of executive development, human relations, and manpower utilization. The methods of communication used by Mr. Burrus were the basis of the award. News about company operations is given to the supervisory group in the form of a gen-

Now . . . from Sonoco—

PLASTIC



SINGLE-HEAD SPOOLS

ECONOMICAL DURABLE SNAG-PROOF

for packaging industrial threads!

Sonoco research and product development scores again . . . and this time with single head plastic spools that feature the tapered base, permitting non-snag free delivery during "take off." Available in three standard base diameter and barrel length sizes—2 1/2" x 3 1/4"; 2 3/4" x 4 3/16"; and 3" x 4 3/16". Barrels may be ordered smooth, scored, knurled or flocked to prevent slippage of thread in primary winding. Supplied in a variety of solid colors or color lacquer tipped for identification. Lower your thread package costs with this new Sonoco plastic spool!

sonoco
SERVES THE WORLD
PAPER CARRIERS
REG. U.S. PAT. OFF.

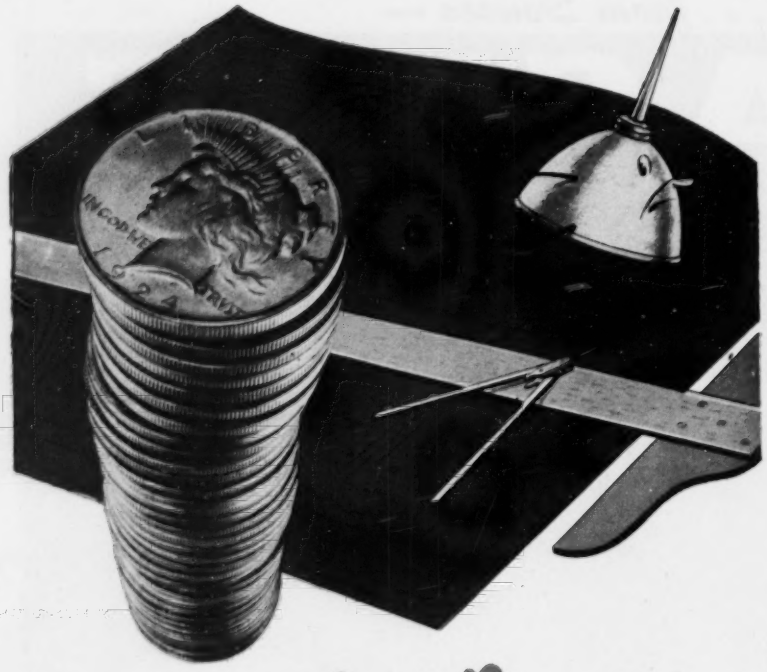
SONOCO PRODUCTS COMPANY

MAIN OFFICE—HARTSVILLE, S. C.

MYSTIC, CONN. LOS ANGELES, CAL. BRANTFORD, ONT. LOWELL, MASS.
PHILADELPHIA, PA. AKRON, IND. GARWOOD, N.J. GRANBY, QUEBEC
MEXICO: Sonoco de México, S. A., Apartado 10239, México, D. F.

DEPENDABLE SOURCE OF SUPPLY

For further information use Handy Return Card, Page 176



Profit Grows When The Oil Can Goes!

BIJUR

Automatic Lubrication

You profit many ways when your machines are equipped with Automatic Lubrication, either built into new units or adapted to installed equipment. Costly hand oiling is eliminated. Repair bills are substantially reduced. Productive capacity is increased because machines are lubricated while in operation; downtime is reduced. Every bearing receives the right quantity of oil at the right time. There are no starved or flooded bearings. Plant safety is substantially increased as fire risk is lessened and personnel injuries are avoided.

All this adds up to higher profits through increased production and reduced maintenance.

For more than a quarter of a century, Bijur has been the accepted standard for automatic lubrication of textile machinery. Well over a million Bijur Systems are in operation in Industry.

Let Bijur design a custom-engineered lubrication system for your equipment.

On all NEW equipment, insist on the best—insist on Bijur.

Literature and engineering data are yours for the asking

O-I

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BIJUR

LUBRICATING CORPORATION

Rochelle Park, New Jersey

Pioneers in Automatic Lubrication

Personal NOTES ABOUT MEN YOU KNOW

eral news letter. They then understand the reasons for any action taken. The employee group receives essentially the same information from the next issue of the Manager's Memos column, which appears in "The Jacksonette," the company publication, printed monthly.

Officers recently elected by the Underwear Institute are: chairman of executive committee, **Wesley M. Heilman,** Gibbs Underwear Co.; vice-chairmen, **Thomas D. Russell,** Russell Manufacturing Co., **E. L. Gruber,** Spring City Knitting Co., **George D. McConnell,** Munsingwear, Inc., and **James F. Nields, Jr.,** Ware Knitters, Inc.; treasurer, **F. R. Devereux,** Oneita Knitting Mills.

Willfred W. Lufkin, Jr., president of Wellington Sears Co., Inc., has been elected president of Worth Street, Inc. Also newly elected were: **Moses H. Bressler,** The Lamport Co., **W. J. Holman, Jr.,** Chicopee Mills, Inc., vice-presidents; and **George Lanier, Jr.,** Turner Halsey Co., Inc., treasurer.

Obituaries

Nan M. Collins, owner of Nan M. Collins Advertising Agency.

Braxton B. Comer, 64, chairman of the finance committee and a director of Avondale Mills.

Ward Delaney, 59, executive director of the Oscar Johnston Cotton Foundation.

Allen R. Fuller, 60, head of the textile section of the A. E. Staley Manufacturing Co.'s research department.

W. H. Hardeman, 77, former manager of the Ella Division of the Consolidated Textile Co.

Victor C. Hassold, 54, president of Steel Heddle Manufacturing Co.

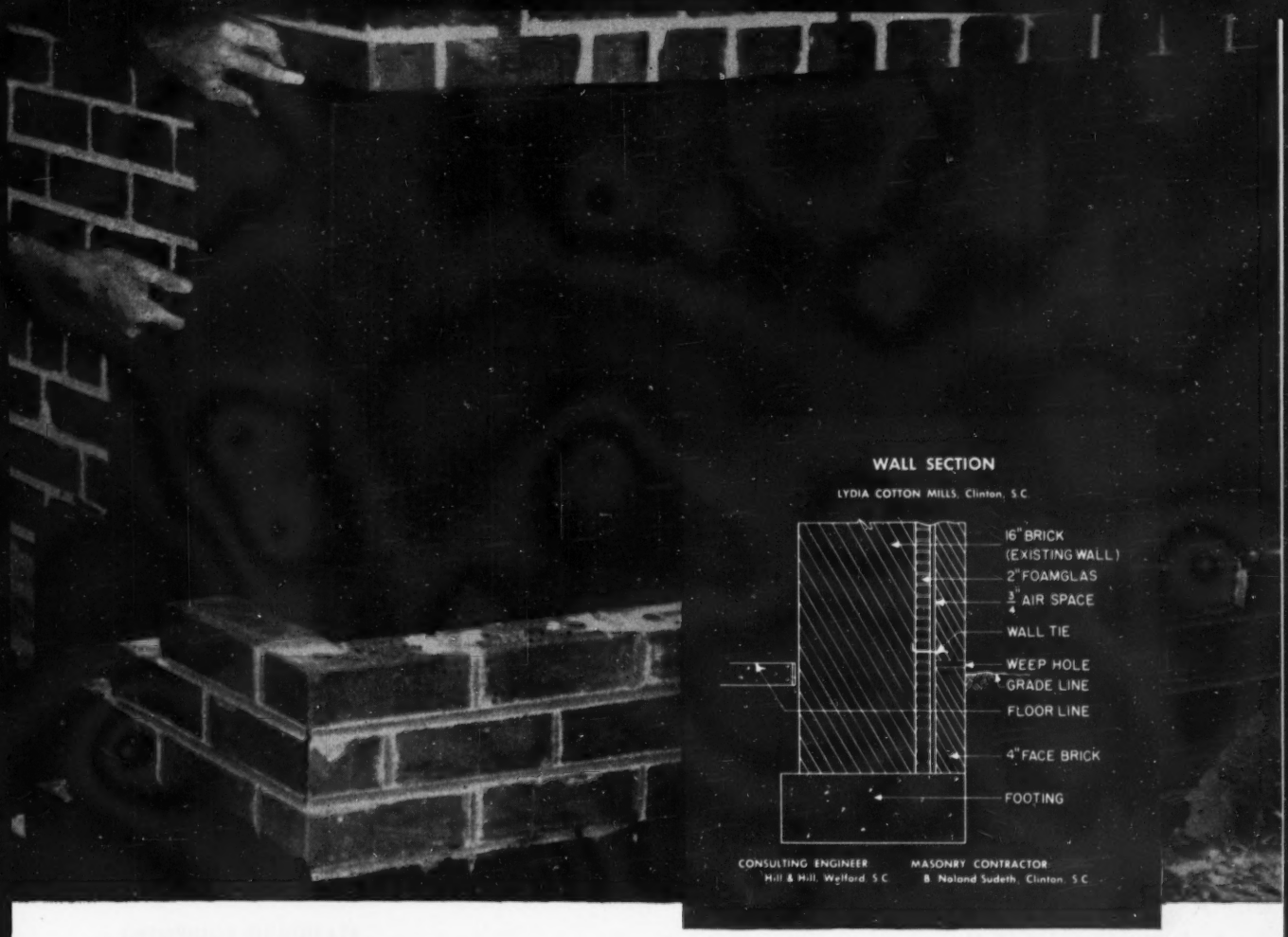
Carl A. Hielle, 55, assistant general superintendent of Botany Mills, Inc.

H. F. Jones, 60, president of Echota Cotton Mills.

William H. Lee, 77, chairman of the board of Lockport Felt Co.

William L. Pitcher, 82, president of United Elastic Corp. and Easthampton Rubber Thread Co.

E. F. Schaefer, 58, president of Gardner-Denver Co.



"FOAMGLAS® INSULATION on the outside stopped sweating on the inside,"

reports P. Silas Bailey, President, Lydia Cotton Mills

P. SILAS BAILEY
President and Treasurer
Lydia Cotton Mills
Clinton, S.C.

"Wet weave room walls were obvious evidence that even 16-inch masonry walls weren't insulation enough to enable us to maintain the precise humidity and temperature we needed," recalls P. Silas Bailey, president and treasurer of Lydia Cotton Mills, Clinton, S.C. "The addition of FOAMGLAS insulation on the *outside* of the existing walls stopped the sweating on the inside."

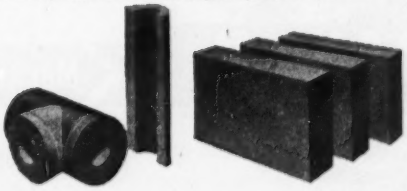
While ordinary insulations absorb moisture which cuts efficiency, FOAMGLAS' sealed glass cells are impervious to water vapor. This means that the rigid blocks of cellular glass can be depended on to help keep indefinitely the exact humidity and temperature required in a weave room.

Three new booklets tell how fireproof, strong, lightweight FOAMGLAS can benefit *you*. Please write now for sample and booklets, indicating if you are interested in insulation for buildings, piping or tanks and other equipment. Address inquiries to: Department AG-74 . . .

PITTSBURGH CORNING CORPORATION
One Gateway Center • Pittsburgh 22, Pa.

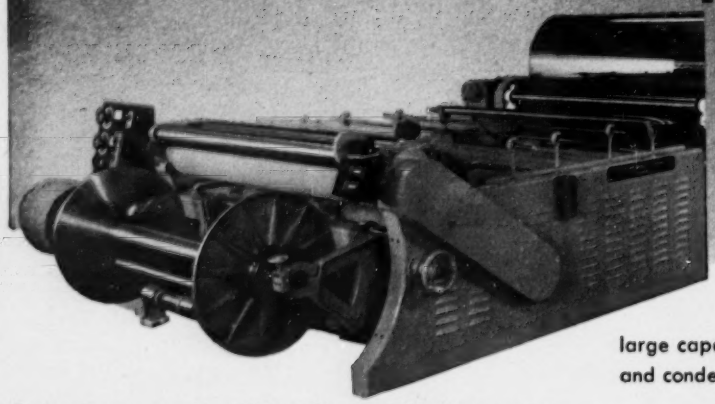
FOAMGLAS®

the cellular glass insulation . . . it stays dry!



Pittsburgh Corning
also makes
PC Glass Blocks

The *New* Cocker High Speed all Purpose Warp Sizer for all Yarns of Today & Tomorrow



Cocker presents a New Warp Sizer evolved from twenty years of study and experience. It represents the progressive thinking and ideas of practical mill men operating hundreds of Cocker Warp Sizers on every type yarn.

1—Air operated carrier and delivery rolls

2—Air operated ironing compressor roll with finger tip variable pressure control

3—A fast and simple latch release for beam doffing requiring no change of position of beam carriage

4—Self locking split rod holders

5—Tension control at two points on the head end

CYLINDERS—This machine is available with 5, 7, 9, 11, 13, or more cylinders. Cylinders are furnished in ASME Code construction in any pressure up to 60 pounds. They are driven by double cut sprockets and roller chain and have large capacity headers with flexible tubing for steam inlet and condensate removal. Individual traps.

SIZE BOX FEATURES

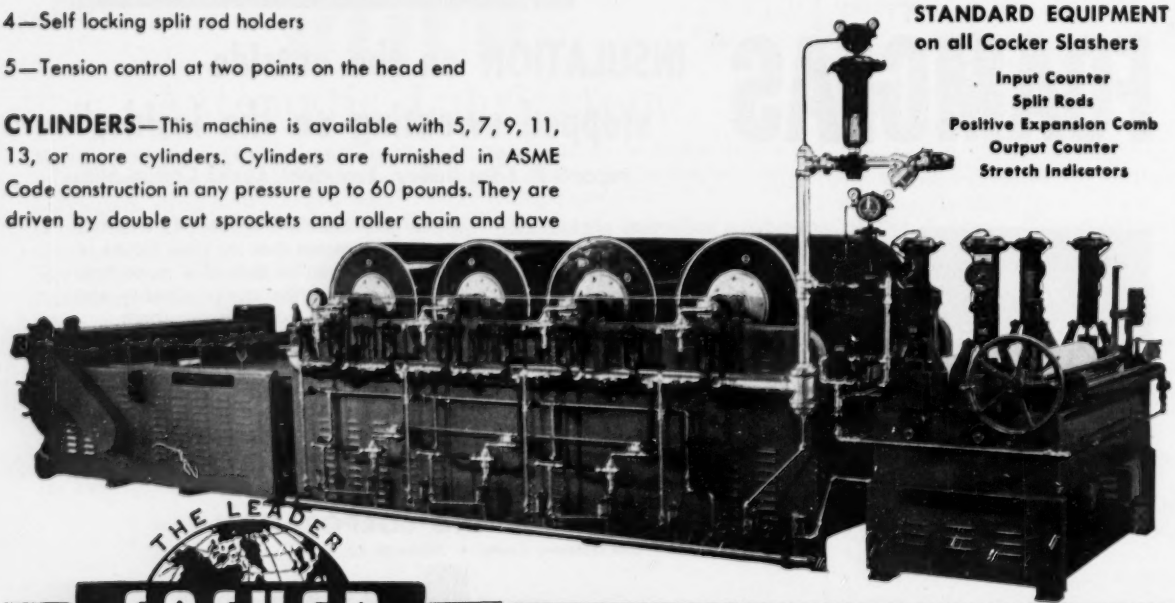
1. Large stainless steel size box jacketed with centrifugally cast stainless steel bottom rolls and rubber covered top rolls.

2. Unitized construction of extra heavy sealed size box bearings with packless seals reduce expensive maintenance to a minimum.

3. Absolute finger tip stretch control from size box to first cylinder.

STANDARD EQUIPMENT on all Cocker Slashers

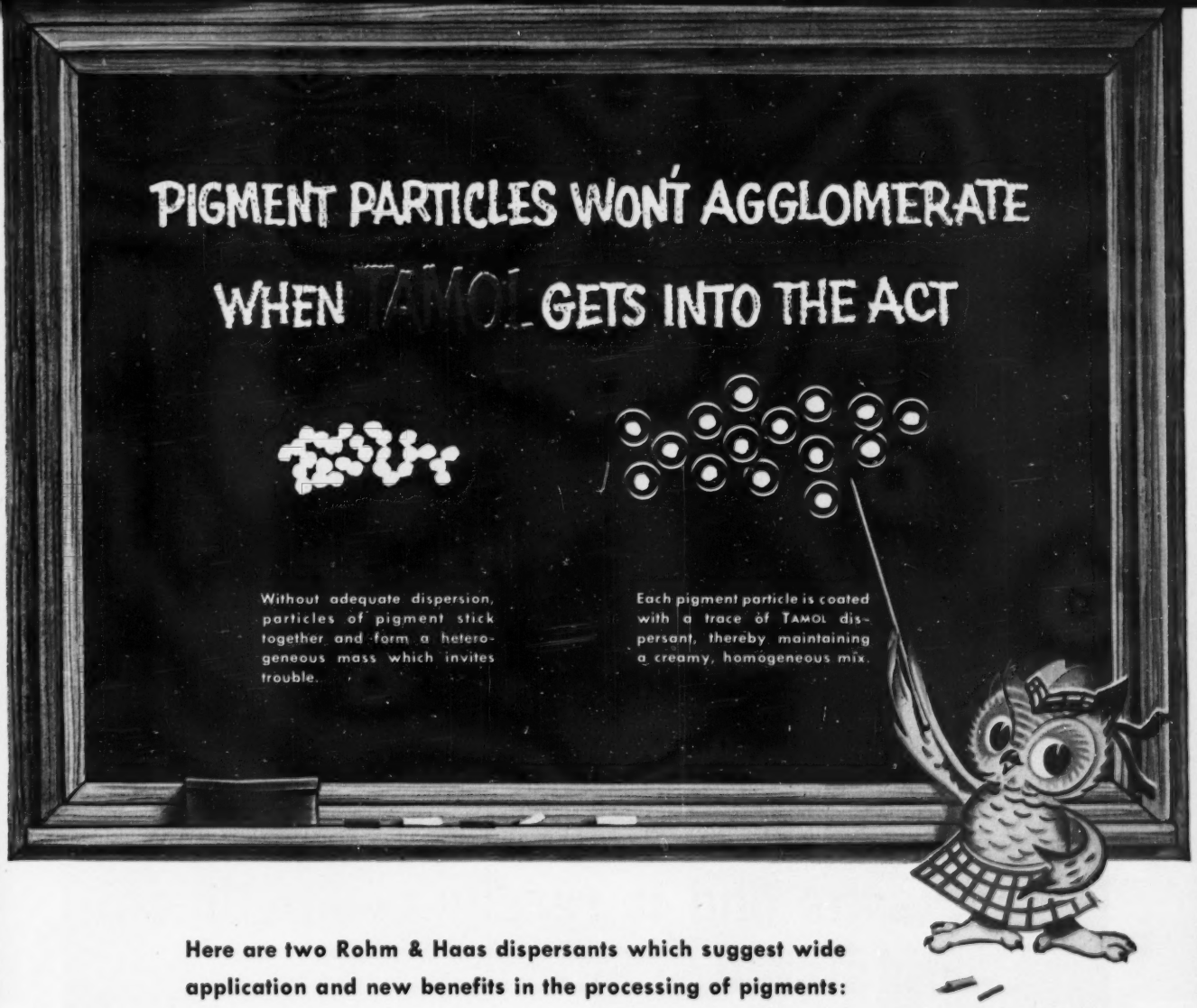
Input Counter
Split Rods
Positive Expansion Comb
Output Counter
Stretch Indicators



THE LEADER
COCKER
AROUND THE WORLD

Machine and Foundry Co., Gastonia, N. C.

WORLD'S LARGEST DESIGNERS AND BUILDERS OF COMPLETE WARP PREPARATORY EQUIPMENT


PIGMENT PARTICLES WON'T AGGLOMERATE
WHEN TAMOL GETS INTO THE ACT
Without adequate dispersion, particles of pigment stick together and form a heterogeneous mass which invites trouble.
Each pigment particle is coated with a trace of TAMOL dispersant, thereby maintaining a creamy, homogeneous mix.

Here are two Rohm & Haas dispersants which suggest wide application and new benefits in the processing of pigments:

TAMOL N is an efficient, economical dispersant for pigment and dyes. Its action upon solids occurs *without* depression of surface or interfacial tension. As a result, there is no frothing or foaming during milling or mixing operations.

TAMOL N is a particularly fine dispersant for carbon black. It is a highly efficient dispersant in print pastes, giving improved printing properties. TAMOL N is available in water solution, designated TAMOL L.

TAMOL 731-25% is a colorless liquid dispersant which is electrolyte-free. It has excellent dispersing activity on a wide range of solids. It will effectively disperse hydrophobic solids like carbon black, and also many of the more hydrophilic inorganic pigments. It is also available in 100% active dry form as TAMOL 731.

TAMOL N and TAMOL 731-25% are both available in commercial quantities.

For complete technical information, write to your nearest Rohm & Haas office.

CHEMICALS FOR INDUSTRY

ROHM & HAAS COMPANY

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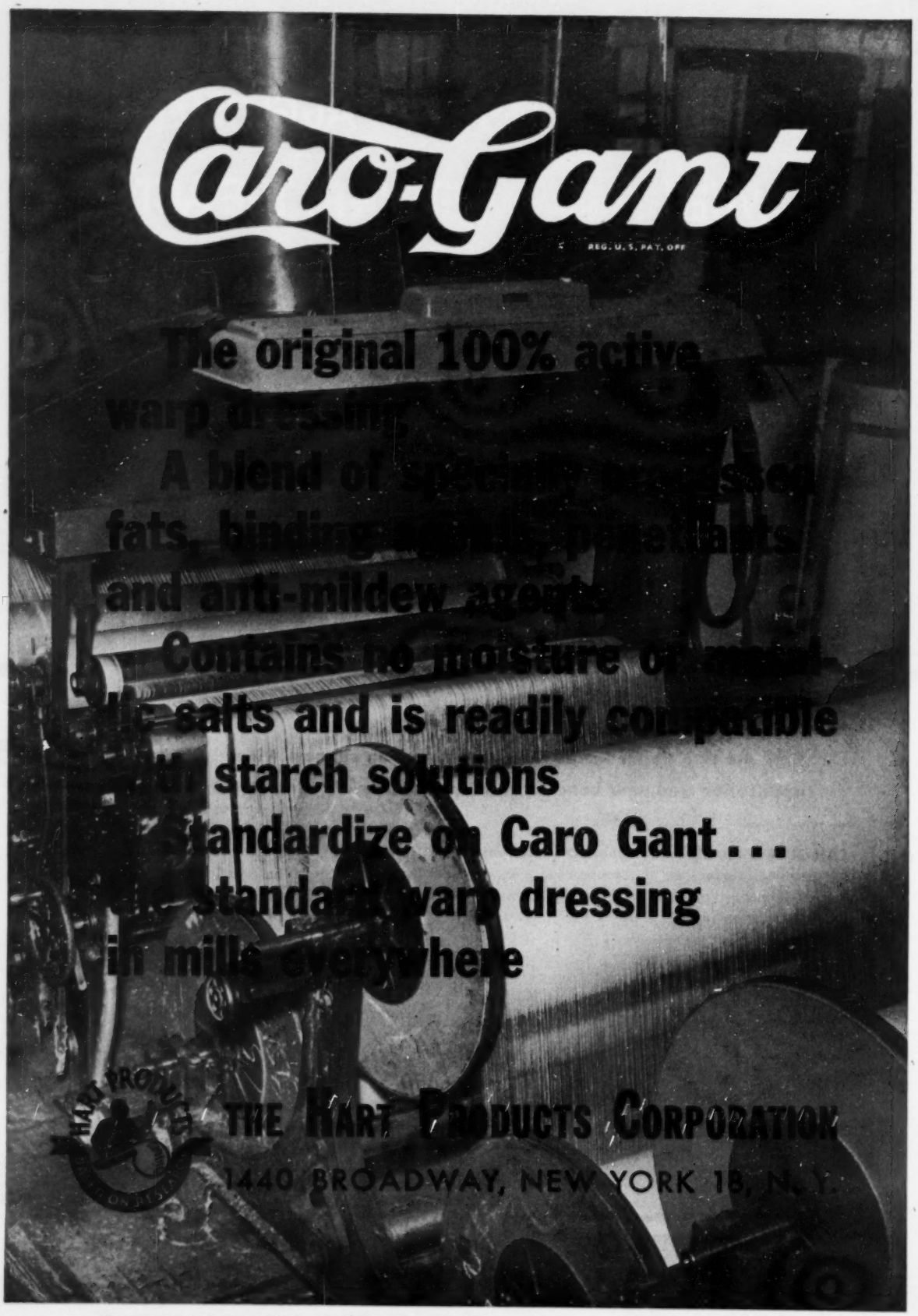
Representatives in principal foreign countries

TAMOL is a trade-mark Reg. U. S. Pat. Off. and in principal foreign countries.


Caro-Gant
REG. U. S. PAT. OFF.
The original 100% active
warp dressing
A blend of
fats, binding
and anti-mildew agents
Contains no moisture or
salts and is readily compatible
with starch solutions
Standardize on Caro Gant...
standard warp dressing
in mills everywhere
THE HART PRODUCTS CORPORATION
1440 BROADWAY, NEW YORK 18, N. Y.

ALEMITE OIL-MIST

saved $2400 first year

...extended bearing life from

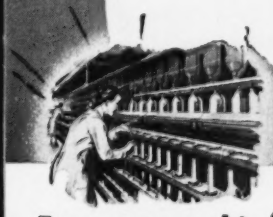
20 weeks to one year and four months

Textile mill breaks bottle-neck, cuts Down-Time, ups Production

Bearing temperatures on an important blower were running 200°. Bearings burned out frequently. Production losses totalled $1000 with each failure. Mill output lagged with down-time for repairs. Here was a bottle-neck that had to be broken! Management turned to Alemite lubrication. Installed an OIL-MIST unit costing little more than a hundred dollars. *Result:* Bearings are still operating with no failures to date—after one year and four months. $2400 has been saved, down-time has been eliminated and production increased!

Compare all these OIL-MIST advantages with ordinary methods!

- Reduces bearing temperatures as much as 20%
- Continuous, uniform lubrication of all types of bearings
- Air pressure seals bearings against dirt
- Reduces oil consumption—up to 90%
- Prevents product spoilage
- Eliminates guesswork—each bearing picks up as much OIL-MIST as it needs
- Reduces starting and running torque.



Facts prove this *"Friction Fighter"* most efficient, continuous, fully automatic lubrication system

All industry looks to Alemite for the latest, most advanced lubrication methods. OIL-MIST, Alemite's great lubrication development, is the famed system that *atomizes* oil into mist—distributes it through tubing to bearings—bathes all bearing surfaces with a cool film of clean, fresh oil. Here is the system that simplifies and materially cuts the cost of machinery lubrication. With no moving parts, the lubricator is the last word in efficiency.

Job Proved and thoroughly tested in hundreds of applications in every phase of industry, OIL-MIST uniformly maintains oil film on plain and anti-friction bearings, gears and chains, despite variations in load, temperature or speed. Don't you owe it to *your* business to learn all about Alemite OIL-MIST—*today?*

ALEMITE OIL-MIST Lubricates All Types of Mechanisms

Alemite OIL-MIST Lubrication

A PRODUCT OF STEWART-WARNER

Get the facts NOW!

Alemite, Division of Stewart-Warner, Dept. M-74
1850 Diversey Parkway, Chicago 14, Illinois

☐ Please send me a FREE copy of your new and complete OIL-MIST catalog.

☐ Please have your Alemite Lubrication Representative arrange a desk-top demonstration of OIL-MIST. This entails no cost or obligation on my part.

My name .....

Title .....

Company .....

Street .....

City ..... State .....

for better SANFORIZED FABRICS insist on BALANCED TWITCHELL OILS®

It's the Balanced Combination of Properties... THAT COUNTS!

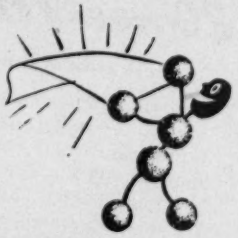
Twitchell Oils not only give you outstanding rewetting, but they provide the perfect balance of essential characteristics for better Sanforized fabrics at low cost. Prove this in your plant by ordering enough for a week's run today!

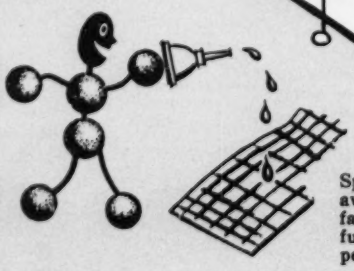
Faster production through
FAST REWETTING

With Twitchell Oils, fabrics wet back rapidly and uniformly. And, full effectiveness is retained even when treated fabrics are stored for long periods ...thus assuring maximum throughput per range under all conditions.

Better Sanforized fabrics through
FREEDOM FROM STAINING

Fabrics smell better, look better to the buyer because of the high stability of Twitchell Oils. Treated fabrics possess maximum resistance to rancidity, yellowing or staining with age... remain fresh and appealing longer.





Faster production through
BETTER FIBER LUBRICATION

Speed slowing sticking at the shoes is avoided. Rejects or re-runs because of fabric distortion are minimized... thus further assuring maximum production per range.

Better Sanforized fabrics through
SOFTER HAND

Twitchell Oils offer a range of softness to give you the hand you want, the hand that appeals to buyers. This fourth property of softness permits a reduction, or in many cases a complete elimination of softening agents.

Emery

Fatty Acids & Derivatives
Plastolein Plasticizers
Twitchell Oils, Emulsifiers

Emery Industries, Inc., Carew Tower, Dept. T7, Cincinnati 2, Ohio

New York • Philadelphia • Lowell, Mass. • Chicago • San Francisco
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Warehouse stocks also in St. Louis, Buffalo, Baltimore and Los Angeles
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Choose the Twitchell Oil that Best Meets Your Requirements

Twitchell 7231—(All Mineral) Best for heavy starch finished and heavy-weight fabrics such as denims and other work clothing.

Twitchell 7240—(Fatty-Mineral Blend) offers the lubricity of mineral oils plus the hand of fatty oils at low cost. Best for all-purpose work.

Twitchell 7250—(All Fatty) Best for maximum rewetting speed, and for shirtings, dress goods and other light-weight, bright-color work where stability and softness are essential.

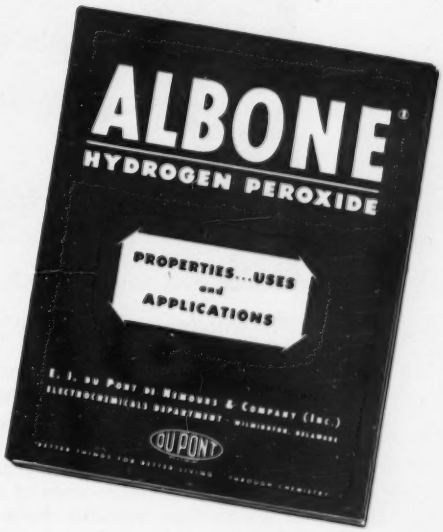
How can I control the reactions of hydrogen peroxide?

What are the preferred construction materials for peroxide storage and bleaching equipment?

You'll Get the Answers to These and Other Questions in This New Reference Book...

This is the practical reference book for the textile processor, the man who is using "Albone" hydrogen peroxide to bleach cotton, wool, rayon and silk or in oxidation of vat colors.

You'll find information on economical peroxide bleaching...testing of bleach baths...efficient everyday handling of hydrogen peroxide in use and storage... and typical textile processing equipment, as well as other useful data.



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ALBONE®

(HYDROGEN PEROXIDE)

"Albone" 35 . . . hydrogen peroxide, 35%
"Albone" 50 . . . hydrogen peroxide, 50%

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BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

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Please send me your new reference book on "Albone" hydrogen peroxide.

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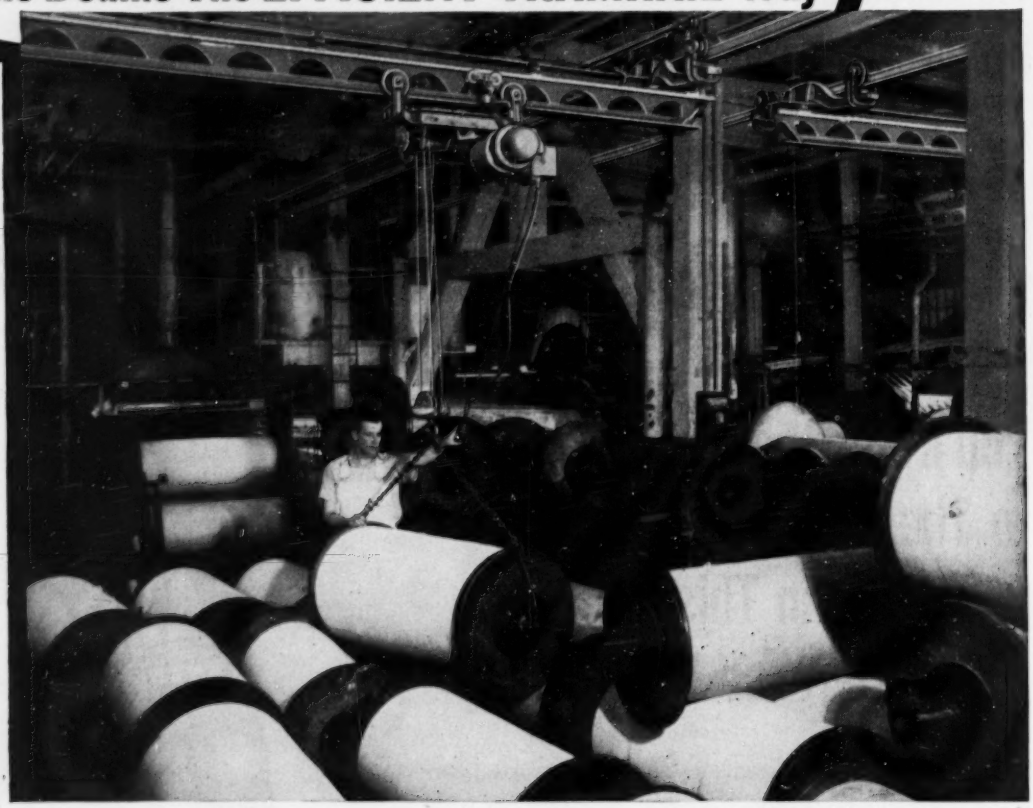
it is Easier, Faster, Safer to
Handle Beams The EFFICIENT TRAMRAIL Way



To withdraw a beam from a tight spot is no problem when Cleveland Tramrail equipment is provided. Nor is it much of a task to transport and place it wherever required.

Transfer bridges, as illustrated above, are one of various types of Cleveland Tramrail handling equipment. They provide handling service for the entire area of each of the bays in which they operate. Because they can be interlocked to stationary rail spurs, loads can be transferred from one bridge to another, or to a track and switch system, and delivered from any point in one bay to any point in another without rehandling.

Wide aisles are not needed for overhead equipment. The many usual floor hindrances do not impede its operation. Thus floor space is saved and more efficient handling service is obtained.

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THE CLEVELAND CRANE & ENGINEERING CO.
2855 East 287 Street, Wickliffe, Ohio

CLEVELAND TRAMRAIL
OVERHEAD MATERIALS HANDLING EQUIPMENT

full measure of color control

When color quality is a "must", leading dyers, finishers and printers rely on four famous A.A.P. specialties for consistently good results. Technicians from our nearest branch will be happy to provide you with working samples and explain how each can be adapted to your color problems.

LEVELENE*

Performance proved as a Leveling Agent—Penetrant—Dispersant and active Stripping Catalyzer. May be used for preparing, dyeing or finishing.

FASTOGENE*

Imparts amazing water fastness to cottons, rayons and multifibres in a simple after-treatment. Prevents wet migration. May be used after dyeing, finishing or printing.

STABILON*

For naphthol dyeing and printing. Stabilizes and prevents decomposition of Fast Color Base or Salt solutions or print pastes. Minimizes crocking and brightens naphthol shades.

DEPUMA*

Stops foam with maximum effectiveness. For dyeing, printing, or soaping. An odorless, viscous emulsion; it does not evaporate.

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AAP

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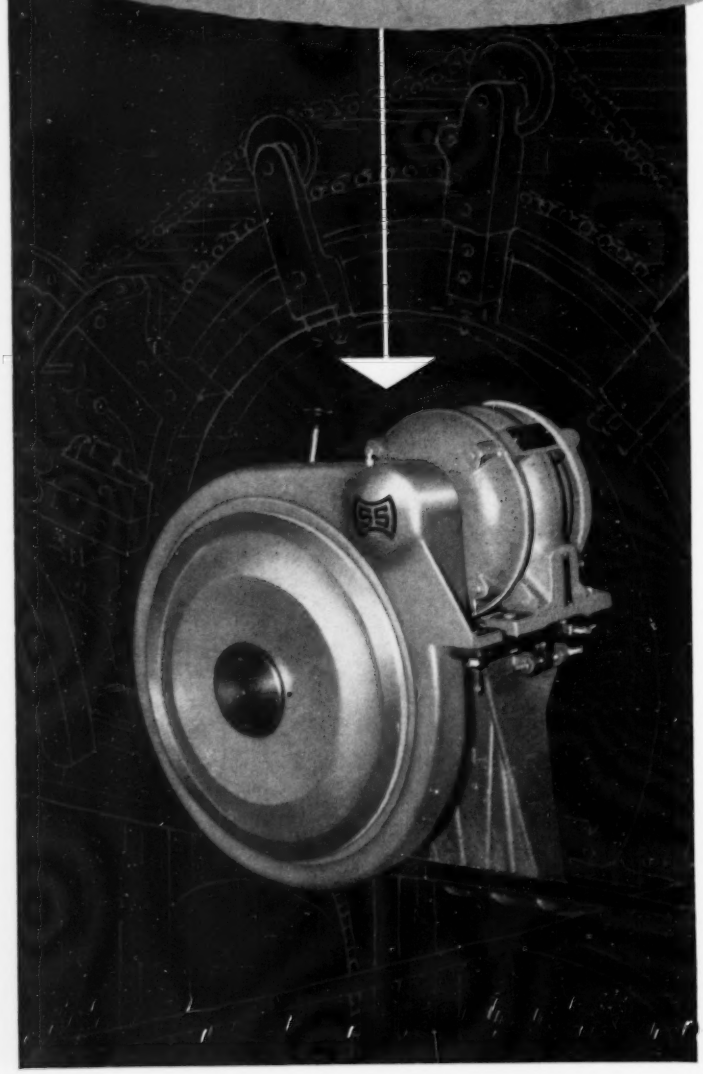
NOW... an Individual Card Drive

at a price you can justify



Here is a new individual card drive. Not only is the first investment for this drive low, but its simple time-tested principle assures little, if any, maintenance cost.

THIS DRIVE MAINTAINS STANDARD CARD OPERATING PROCEDURE AND PRESENT METHOD OF STRIPPING, eliminating cost of separate stripping devices and dangers inherent in training personnel in new methods. The operation, in addition to being easier and more quickly executed, is safer than ever before.

MILLS EQUIPPED WITH THIS DRIVE CAN STANDARDIZE CARD PRODUCTION since the slippage associated with any type of belt drive has been eliminated. It embodies the advantages of direct drives plus the slip-clutch safety to prevent possible damage from chokes.

AS A PACKAGED UNIT, this drive is easily and quickly installed. It is fitted with a rigid mounting direct to the card frame with no complicated reduction unit or overhung load on the cylinder shaft. Occupying approximately the same space as existing flat belt drives, this drive leaves the flats clear and eliminates the danger of springing arches or damage to flats due to vibration.

Now you can reduce the production loss of group shut-downs and eliminate the accidents and costly maintenance associated with belts and line shafts.

If you haven't seen this drive, contact your nearest Southern States representative or write today for Bulletin No. 200.

All the parts necessary for continuous stripper drive can be supplied at moderate extra cost.

SOUTHERN STATES EQUIPMENT CORP.

HAMPTON, GEORGIA

Textile Industries
for July, 1954

News in Brief

Better Times in Sight. The soft goods industries, and particularly the textile industry, are at present suffering from a too-cautious attitude of many retailers, who have adopted a hand-to-mouth buying policy, expecting manufacturers to make prompt delivery as goods are needed. However, the textile industry can look forward with a great deal of confidence toward the fall, not only for larger volume but also for better profit margins. So says Dr. Marcus Nadler of NYU's Graduate School of Business Administration.

New England Textiles Still Important. "This Centennial [of the National Association of Cotton Manufacturers] is intended to switch New England thinking from the mills that have *gone* to the mills that are *here*. We want New England to know it still has a substantial cotton, silk, and synthetic textile industry that is one of the region's greatest assets."—William F. Sullivan, NACM President.

Union Membership Down. Figures released by Emil Rieve, TWUA-CIO president, revealed that TWUA membership has declined from 400,000 members two years ago to current figure of 325,000. Decrease parallels reduction in total textile industry employment from 1.3 million two years ago to slightly more than 900,000 today.

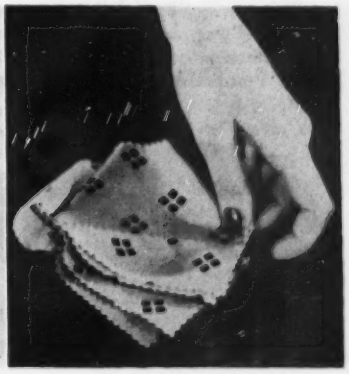
1954 Cotton Crop Estimate. Based on estimated percentage of allotment expected to be harvested and five-year average yield, the National Bank of Commerce, Memphis, Tenn., expects a 1954 crop of 11,734,000 bales. Since weather is such a big factor in a crop, the Bank emphasizes that the prediction is tentative and subject to large changes if weather conditions vary far from average.

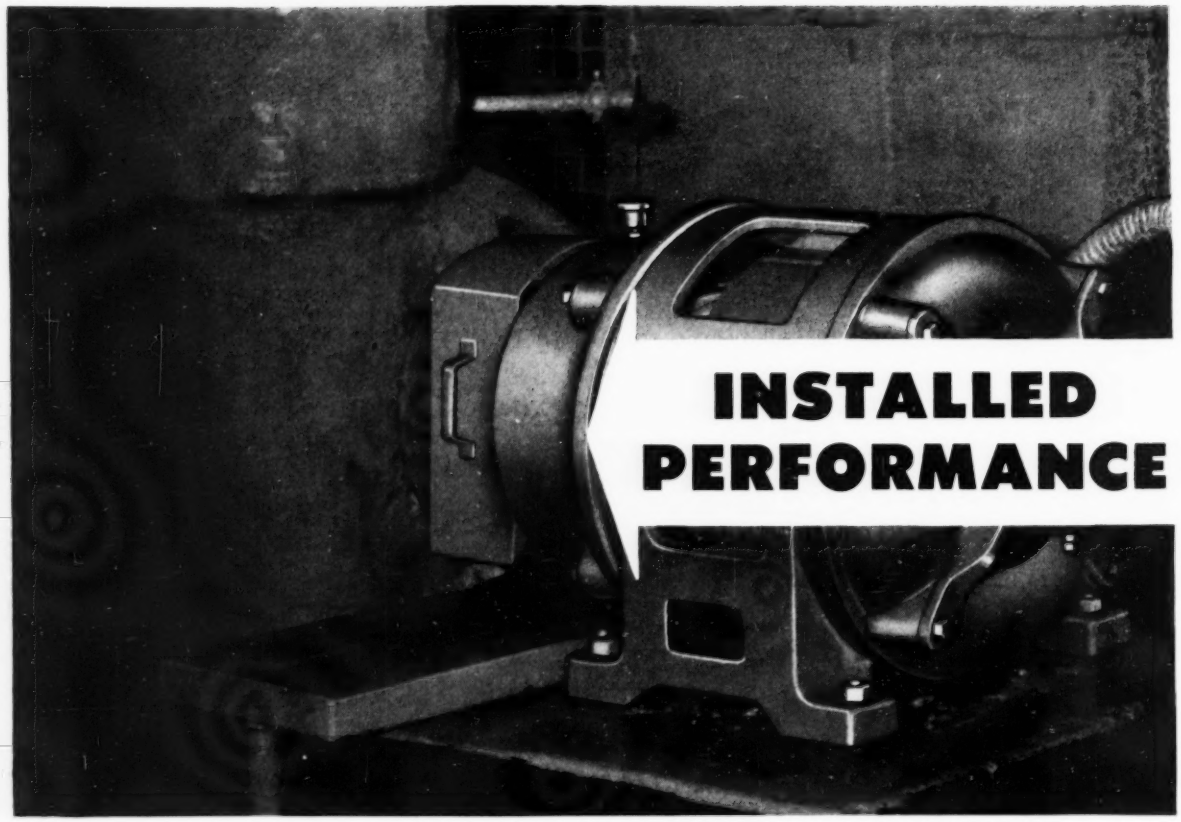
Shrinkage Standards Studied. Underwear Institute is studying standards for measuring shrinkage and restorability, and shrinkage

Cotton Broadcloth Printed in 3-D with Vinyl Resins

A new cotton broadcloth has patterns printed in three dimensions of dyed Bakelite vinyl resins which are smooth, glossy, and reflect interesting highlights. Designed for women's summer wear such as blouses and lounging pajamas, the material, developed by Cohn-Hall-Marx Co., is also available in yard goods for household decorative uses.

The resistance of Bakelite vinyl plastic to moisture and abrasion, combined with its strong adhesive qualities, makes the novel patterned fabric easy to wash. It is ironed on the reverse side (left photo) to protect the pattern from heat. Printed on cloths in a number of solid colors, the patterns include flower petal (center photo) and diamond-square (right photo) in black, and polka-dots in black or other colors.





INSTALLED PERFORMANCE

"Buffalo" Close-Coupled Pump Handling Chilled Water

RATINGS — "BUFFALO" CLOSE-COUPLED PUMPS — 1750 R. P. M.

TOTAL HEAD IN FEET

GPM		70	80	90	100	110	120	130	140	150	160
340	Size	4CCM	3CCL	4CCL	4CCL	4CCL	4CCL	4CCL	4CCL	4CCL	
	BHP	7.90	10.1	10.9	12.3	13.7	15.2	16.9	18.5	19.8	
360	Size	3CCL	3CCL	4CCL	4CCL	4CCL	4CCL	4CCL	4CCL	4CCL	
	BHP	8.8	10.8	11.5	12.9	14.3	15.9	17.7	19.4	20.6	
380	Size	3CCL	3CCL	4CCL	4CCL	4CCL	4CCL	4CCL	4CCL	4CCL	
	BHP	10.3	11.6	11.8	13.3	14.9	16.5	18.1	19.8	21.5	
400	Size	3CCL	3CCL	4CCL	4CCL	4CCL	4CCL	4CCL	4CCL	4CCL	
	BHP	9.2	11.3	12.3	13.8	15.3	16.9	18.6	20.5	22.3	
420	Size	3CCL	3CCL	4CCL	4CCL	4CCL	4CCL	4CCL	4CCL	4CCL	
	BHP	11.8	13.0	12.9	14.3	16.0	17.7	19.4	21.2	22.7	

THAT MEETS (OR BEATS) RATED PERFORMANCE

Few disappointments are more aggravating — and expensive — than the pump that fails to deliver the performance promised on paper. It means adding an auxiliary unit or dismantling the installation to replace with a pump which will do the job.

This is why "Buffalo" Pumps are so frequently specified. Since "way back when," these pumps have had the reputation for living up to their ratings. Every "Buffalo" Pump is built to the standards of workmanship and materials required for its intended job — and every "Buffalo" Pump must pass a thorough load test, before it ever leaves the factory. Take the popular "Buffalo" Close-Coupled Pump above. Heavily insulated-in for long periods of chilled water service, it delivers — and *keeps* delivering — up to rating. Husky and efficient, this compact pump is a long-term money saver. Write for Bulletin 975-D for the facts.

"Buffalo" PUMPS

BUFFALO PUMPS, INC.

175 MORTIMER ST. BUFFALO, N. Y.

Subsidiary of Buffalo Forge Company

Canada Pumps, Ltd., Kitchener, Ont. Sales Representatives in all Principal Cities

A BETTER CENTRIFUGAL PUMP FOR EVERY LIQUID

claims in advertising, through committee headed by J. L. Wyner of the Vanta Co. Unwarranted shrinkage claims have been called to the attention of manufacturers and progress has been made in stopping these claims.

Fourth Canadian Textile Seminar. The Textile Technical Federation of Canada has announced that registration forms and other information concerning the Fourth Canadian Textile Seminar, to be held at Kingston, Ontario, September 9 to 11, 1954, are available from the Federation's executive secretary, Eric Dawber, at 1410 Guy Street, Montreal 25, Quebec, Canada.

Japanese Wool Imports Threaten. Threat to domestic woolen industry for foreign imports, which last year reached a 31-year high of 24,275,000 square yards, is increased by entry of Japan into the American market. Japanese wool cloth is being landed in New York, duty paid, at $1.50 to $2.00 a yard less than comparable American goods. Answer to this price advantage lies in wage gap—average of $1.55 per hour for mill production workers in this country, 42 cents in England, and 13 cents in Japan.

New Saran-Like Fiber. A vinyl chloride-vinylidene chloride copolymer, reportedly with properties similar to saran, was introduced recently by Chemische Werke Huels, of Huels in the Western Zone of Germany. The firm is one of the successors to I. G. Farben. The new fiber is called "Vestan."

Honorary Member of AATCC. William H. Cady, Providence, R. I., has been unanimously elected an honorary member of AATCC, the fourth person to be so honored in the 33 years of the Association's existence.

N. C. State Textile Building Named. The School of Textiles building at N. C. State College has been officially named The Nelson Textile Building, in honor of Dr. Thomas Nelson. Dr. Nelson was dean emeritus of the School of Textiles until his death in 1953.

Payments to Employee Trust Deductible. The Internal Revenue Service has ruled that certain payments to an employee trust fund are deductible from gross income for income tax purposes. Payments are those made in cases where employer is obligated to pay full amount of retirement benefits after funds in trust to employee's credit are exhausted, even though employer does not contribute to trust fund.

NYQMPA Returning to Philadelphia. The New York Quartermaster Purchasing Agency intends to return to the Philadelphia Quartermaster Depot as soon as practicable, probably about July 1st. The Agency has been located in New York since 1945. Move has prompted Navy Purchasing Office, located in same building as NYQMPA, to announce its move to Naval Activities Supply Building, Brooklyn, about August 1st.

USDA Lets Research Contract on Cotton Carpets. A study of in-place cleaning of cotton carpets and room-size rugs will be made for the USDA's Agricultural Research Service under contract by

Growth of Industry in South Carolina Credited to Fiber, Consumer Research

Staff Report

"South Carolina, by many terms of measurement certainly, now stands as the foremost textile state of our nation, with approximately one-quarter of the entire industry's spindleage centered here," reported Marshall C. Stone, retiring president of the South Carolina Textile Manufacturers Association at the annual meeting held at the Cloister, in Sea Island, Ga., May 27, 28, and 29.

South Carolina's rate of progress has been, and continues to be, greater than anywhere else in the country—North or South, Mr. Stone said. Much of this continued growth was attributed to scientific development—not only fiber research, but consumer research as well.

Mr. Stone also stated his opinion that the recession in the textile industry was approaching a turning point.

Frank W. Lovejoy of Socony Vacuum Oil Company, N. Y., in his address, urged the textile men to adopt a more modern method of merchandising by getting out among their customers. "You can't eliminate competition—so welcome it," said the one time drygoods salesman.

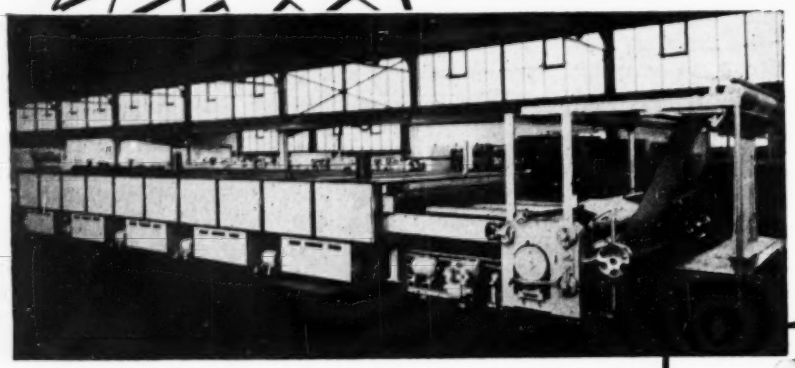
Report to the J. E. Sirrine Textile Foundation. 1953-54 was another good year for Clemson, holding the largest enrollment of any textile school for the fifth year.

Developments of eight staff members during the summer of '53 were:

1. A new type knitting machine.
2. Additional publications on X-ray research.
3. Method to prevent "jerkins" on box looms.
4. Design of a new constant tension shuttle eye.
5. A new picker lap meter.
6. Study of card performance with the flats run in opposite direction and design of a flat stripping mechanism for such reversed operation (TI for April, page 179).
7. Study of warping glass yarn and design of methods to prevent "tight and loose" ends on the loom beam.

For relaxation. On Thursday evening Mr. and Mrs. Stone entertained members of the Association and guests at a reception held in the Club Room of the Cloister. A luncheon was held for the ladies on Friday, with Mrs. Eleanor A. Nash of New York City pointing out that "Beauty is not an Age." For the gentlemen a golf tournament, skeet shoot, and fishing were provided. After dinner on Friday the guests returned to the Club room for entertainment and dancing.

2 New REINER SENSATIONS!



The Efficient *New* FAMATEX TENTER

PRODUCT of one of the world's largest manufacturers of such equipment, and sold through Reiner-Famatex, Inc., the Famatex Tenter is a compact, versatile, highly efficient and economic unit. It is suitable for both knitted and woven fabrics—its performance has been proven on natural and synthetic fabrics. Nylon setting equipment is also available. For processing of woolens a carbonization unit can be obtained.

The tenter has a stepless speed range of from 1-200 yards a minute. This can be regulated while the machine is in operation. Another unique feature consists of a compartment under the dryer containing a lattice-type conveyor for cooling and conditioning of cloth so it emerges at room temperature.

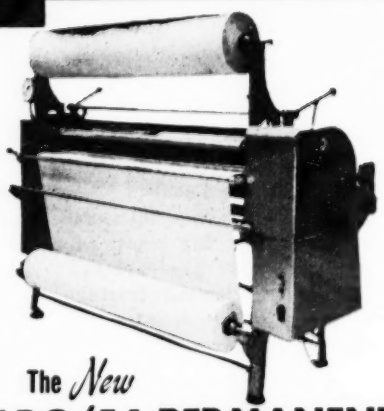
Other features: **Top quality production at substantial savings — Pin and clip combination permits maximum versatility — Extremely low steam consumption — Single unit installation, no piecemeal additions.**

NO OTHER TENTER LIKE IT!

Request complete details.

THE REINER LINE INCLUDES:

Tricot — Simplex and Raschel Machines — Warpers and Creels for all widths and needs — 4 Section Full Fashioned Hosiery Machines up to 75 gauge — 4 Section Full Fashioned Sweater Machines — Automatic Flat Power Rib Machines — 10 and 15 yard Automatic Schiffli Embroidery Machines—Bobbin Winding Machines (for quilting and stitching) — Multihead Automatic Embroidery Machines — Ready Spare Part Service for all Reiner Machines.



The *New* RABO '54 PERMANENT PLEATING MACHINE

(working width 59½ inches) for processing woven and knitted fabrics of synthetic or natural fibers. Specially developed to produce wash-proof flat, knifed and box pleats in a limitless variety of patterns and designs. Among its many features are sliding guides for pleating several narrow strips simultaneously — temperature control by patented thermionic system — automatic rewind of pleated fabrics — automatic paper feed — water cooled outlet table and many other features. Also available is a twenty-inch Crystal-pleater, with or without bow attachment.

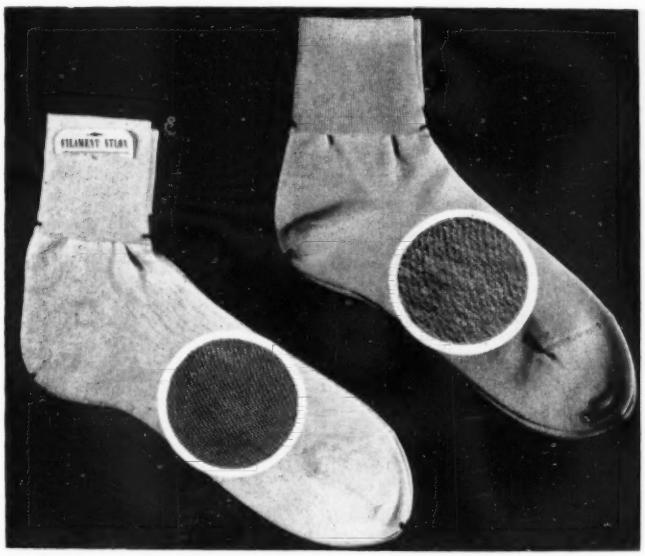
Further Details Upon Request.

ROBERT REINER INCORPORATED

10 MINUTES FROM TIMES SQUARE

Take Bus Nos. 61 or 67, from Platform No. 60, Port Authority Bus Terminal, 41st Street and 8th Avenue, New York City. Get off at Pleasant Avenue, Weehawken, New Jersey. From there turn left and walk through the underpass up to Gregory Avenue . . . TELEPHONE: UNION 7-0502, 0503, 0504, and 0505. From New York City call LONGACRE 4-6882.

FOUNDED IN 1903 **550-564 GREGORY AVENUE, WEEHAWKEN, NEW JERSEY**



Observe the Difference—Filament vs. Textured Nylon Socks

A striking difference in surface texture may be seen in these two anklets knitted from the same basic continuous filament nylon yarns. However, the anklet on the right was made from "Taslan" textured yarn from a process developed by Du Pont's Textile Fibers Department (see T. I. for August, 1953, page 143). The anklet on the left was knitted from the same basic yarn, but not textured by the process.

The process imparts modifications in feel, texture, bulk, covering power, and luster to conventional textile yarns. Du Pont has registered "Taslan" as a trade-mark and made it available to licensees of the textured yarn process.

Anklets like the pair on the right are being produced commercially by Princeton Hosiery Mills. Experimental work is progressing on fabrics made of "Taslan" yarn for shirts, rainwear, sheets, upholstery, and many other uses.

The Hoover Co., North Canton, O. E. M. Buras of the Southern Regional Research Laboratory will supervise the project for the USDA, and C. W. Studer is project leader for The Hoover Co.

Taylor Wins Gilbreth Medal. Craig L. Taylor, professor of engineering at University of California at Los Angeles, is the 1954 winner of the Gilbreth Medal of the Society for the Advancement of Management. Dr. Taylor was chosen for his work in developing new techniques for recording and analyzing hand, arm, and body movements, resulting in improved design and application of artificial limbs for the physically handicapped.

Wool Mills' Markets Invaded. Markets formerly considered the exclusive province of wool mills are being invaded by products made in whole or in part of wool by mills habitually referred to as cotton or rayon mills, according to E. D. Walen, vice-president of Pacific Mills and president of the National Association of Wool Manufacturers. "Generally the machinery assignments and wage levels of such mills are more favorable than ours," Mr. Walen said, decrying arbitrary regulation of wages by the Government.

News in Brief

Union Discards Industry-Wide Bargaining. Reversing a policy in effect since 1928, the American Federation of Hosiery Workers passed a resolution at its recent convention calling for an end to the national labor agreement and substituting a policy of individual agreements. Ostensible purpose is to permit more flexibility in dealing with situations arising at specific mills.

Fire-Resistant Clothing. Production of metallized clothing which will withstand a temperature of 2,000 degrees for five minutes is reported by a Paris firm. The clothing is claimed to allow only a 40-degree temperature rise after 20 minutes exposure at 1,200 degrees.

Definition of Combed Yarn Sought. Lack of a legal differentiation between carded and combed yarns, leading to mislabeling practices, has prompted formation of a Combed Yarn Committee by the Underwear Institute. Function of the committee is to define "combed yarn," devise a test for it, and gain approval and adoption by the National Bureau of Standards.

USDA Conducting Marketing Studies Abroad. The USDA has sent marketing specialists to Europe and the Far East to study probable requirements for American cotton during the 1954-55 marketing season.

New Polyamide Fiber. Snia Viscosa, Italian producer of synthetic fibers, will soon begin producing "Lilion," polyamide fiber developed by the firm.

Knitting Machine Controls Course Length. Automatic control of course length is feature of new machine developed by England's Hosiery and Allied Trades Research Association. The knitting machine utilizes a stroboscopic device to signal when length of yarn per course varies. A research mod-

(Continued on page 172)

When your Processing calls for:

SOAP

call on this All-Star Cast!

OLATE

A neutral, thin-flaked soap containing 92% anhydrous soap. Made from carefully selected and highly refined oils of approximately 12°C titer. Highly resistant to oxidation, rancidity and odor development. Olate dissolves more readily, rinses more freely and forms more fluid solutions than medium or high titer soaps. Excellent for scouring and fulling woolens and worsteds. Equally efficient for processing other fibers.

NONPAREIL

A neutral, light-colored flake containing 92% anhydrous soap. Made from high-grade, medium titer stocks. An efficient all-purpose soap which can be used alone or with alkalies for processing all types of textile fabrics. Nonpareil forms fluid solutions with greater viscosity than Olate solutions of equal concentrations. Readily soluble and free rinsing. Good scouring properties at all temperatures. Widely used for fulling and scouring.

AMBER
FLAKES AND GRANULES

A light-colored, neutral, top-grade 42°C titer soap made from carefully selected fats exceptionally resistant to oxidation, rancidity and discoloration. The standard in the textile industry for tallow-type soaps. Contains 88% anhydrous soap. Amber builds an unusually sturdy suds which performs efficiently where heavy-bodied fulling solutions are desirable.

IVORY
CHIPS AND BEADS

A medium titer, neutral, white soap containing 90% anhydrous soap. Made from highest quality refined oils and fats. Dissolves readily, producing quick, stable suds at all temperatures. Very resistant to oxidation and discoloration when left in textile fabrics or when used as a textile finish. Excellent for processing all types of fibers.

Your jobber has stocks of these fine, time-tested Procter & Gamble textile soaps. Use them with confidence.

Procter & Gamble

Textile Finishes Sales Department
Cincinnati, Ohio

MAKERS OF PROFINE, KYRO, ORVUS AND PROXOL BRANDS

AN EXECUTIVE *Views*

THE NEWS IN TEXTILES

Prepared by a man who is closely identified with the textile industry.

Spring Conventions and Foreign Cameras

IN THE April issue we commented upon the large number of textile conventions which are held each spring and the difficulties this situation imposes upon those who find it necessary or desirable to attend several of these during the course of one or two months. We mentioned more than a half dozen conventions which were being held during the spring of 1954 and pointed out that it might be a good idea if somebody, somewhere, would work out a system to distribute these over other periods of the year.

Since this appeared in print, we have heard a number of comments, both pro and con, but they all seem to take the same general pattern: it would be a good idea to spread these over twelve months, but how can it be done? If some of these organizations should change their conventions to the fall of the year, they would immediately run into conflict with meetings now scheduled in October and November.

Nobody wants to go to a Florida convention in July, and, in like manner, few people would be interested in a January convention in North Dakota. There are limitations as to the availability of hotel space, the weather, religious and national holidays, and other complications.

A little checking here and there seemed to indicate that Association A would be delighted if Association B would change its meeting date to February, and, in like manner, Association B would like to see changes made—by somebody else.

Perhaps there is no solution, but we still think it is a good idea.

* * * * * * * * *

To our way of thinking, the machinery exhibits of the American Textile Machinery Association were the finest we have ever seen, and, certainly, the Atlantic City Show proved the value of the exhibits. We believe we saw more textile executives during the week of the show than we have ever before seen in any like period.

At the same time, the show proved the type of foreign competition with which American mills must contend in the years ahead. If you were there, you saw the many nationalities which were represented in the spectators, and you may have been especially impressed with the large number of Japanese visitors. The notebook and the camera seemed to be a national characteristic of the Japanese people and, certainly, their appearance in Atlantic City established this characteristic more firmly.

Toward the middle of the week efforts were made to do something about the situation, but there was actually very little that could be done, because if they did not see the machinery in Atlantic City, they could very readily make other arrangements, even though they might have to buy a loom or a spinning frame.

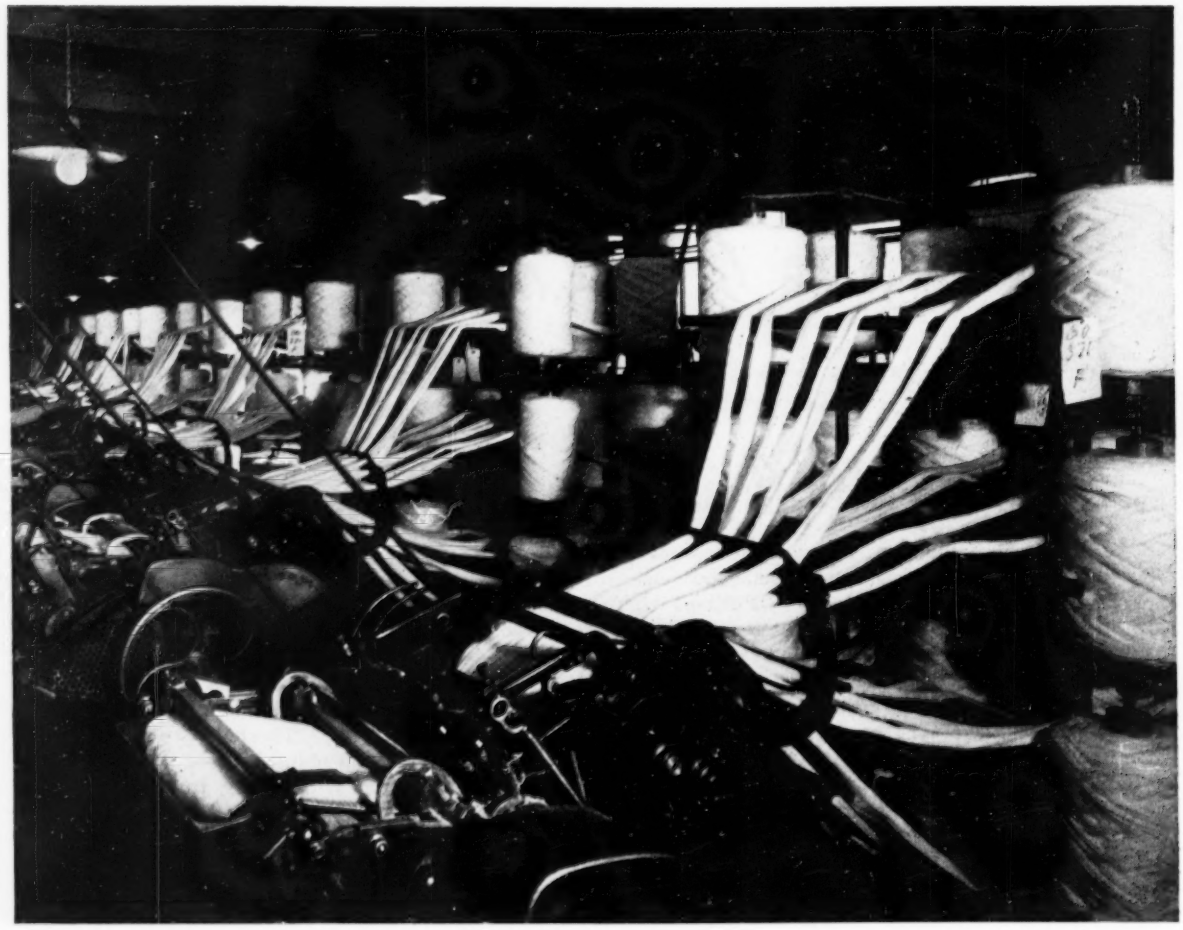
Perhaps you saw the letter that came to some of the exhibitors, and which explained that "the American Textile Machinery Investigation Mission," composed of twenty-two members from sixteen leading Japanese textile manufacturing companies, would attend the Exhibition, and these visitors expressed the desire to make a tour also of the various textile machinery manufacturing companies. "Therefore, we shall be much obliged," said the letter, "if you will kindly furnish us with your invitation letter for each member of this Mission. In that case they will be assured to be able to visit you when in this country."

We cannot state it for a fact because we heard it from a friend who heard it from another friend, but the story is that in all five hundred Japanese came over for the Atlantic City exhibits. This does not seem to be much, if any, of an exaggeration because it seems to us that we can remember seeing almost that many Japanese personally, including those who were found with their cameras under various pieces of moving machinery.

Certainly all of us should keep in mind the need for world peace and should recall with some sympathy and understanding that millions of people throughout the world are ill-fed and ill-clad. At the same time, perhaps we should also remember that it is possible to carry charity too far—experience proves it.

Raw Cotton Abroad

From time to time in this space, we have commented upon the fact that the American textile industry is certainly the best, and possibly



Good Buy Forever

SCORES of southern textile mills have found, from long experience, that Standard Oil Lubricants are *outstanding* in quality and uniformity —and can be depended upon to save time and money, reduce downtime, and speed production . . . Whatever your lubrication requirement may be, there's a Standard Oil Lubricant "tailored" to fit your need—designed to do *your particular job* with speed, economy and efficiency . . . With long experience in serving the textile industry, our engineers are specialists in textile machinery lubrication, and have behind them the largest facilities for testing and research in the world. These facilities are available to tackle *your* problems where they involve a new or unusual lubricant application.

Standard Oil Company
(KENTUCKY)

STANDARD OIL
LUBRICANTS

the only reliable, customer of the American cotton farmer. We have predicated this statement upon the belief that even though textile industries in other countries should grow to enormous size, they would not necessarily buy American cotton. We have mentioned that American cotton is supported by a subsidy program and that it has just about priced itself out of the world market. In this connection, we have mentioned some of the strides being made in foreign countries in the production of raw cotton.

There now comes to hand a pamphlet published by an organization called The Organization for European Economic Co-operation, with headquarters in Paris. It seems that the United States is not a member of this organization (this seems to be about the only thing the United States is not a member of), but it does participate in its work. At any rate, this pamphlet is entitled "The European Textile Industry In 1953" and one of the more or less significant statements it contains is this:

"In 1952-53 cotton production in Turkey has maintained the rapid expansion begun a few years ago. Total output was 170,000 tons as against 150,000 tons during the previous season and 118,000 tons in 1950-51, an increase of 44% in two years. Steps have been taken to improve marketing methods and the effects of these measures are already becoming apparent."

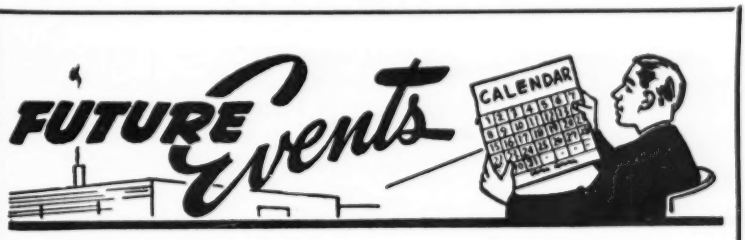
As far as we know, there is not much of a textile industry in Turkey but, just for the sake of argument, suppose that in years to come there should be quite a large industry and that it should be predominantly on cotton. Where do you think they would buy their raw cotton? The last time we laid a small wager on a horse, said horse threw his jockey —but we feel that we would take no undue risk in hazarding that the Turks will buy raw cotton from the Turks.

It has been said before, but it will bear repeating: the only really reliable, steady, financially responsible customer the American cotton farmer has ever had, or ever will have, is the American textile industry.

Smaller Pieces of Pie

The other day we saw a chart somewhere which depicted the size of the slice of textile market which each of the fibers has been able to obtain for itself over the course of a number of years. For example, this chart showed that in 1913 cotton accounted for approximately 90% of all of the textiles consumed in the United States. Synthetics, on the other hand, accounted for only one-tenth per cent of all of the fibers. Preliminary figures have just recently been made available for 1953 and these tell quite a different story. Cotton now accounts for 69.1 per cent while rayon, acetate, and other synthetics account for 23.3 per cent. Of the remaining fibers, wool got 7.4 per cent of the total market, flax one-tenth of one per cent, and silk one-tenth of one per cent.

These figures prove anew that the competition is keen and that the race goes to the swiftest.



July 21-24—35th annual session, **Southern Industrial Relations Conference,** Blue Ridge, N. C.

Sept. 9-12—Fourth Canadian Textile Seminar, Queen's University, Kingston, Ontario, **Canada.**

Sept. 13-14—Fall meeting of **The Fiber Society,** McGill **University,** Montreal, Canada.

Sept. 15-16—National convention, American Association of Textile Chemists and Colorists, Biltmore Hotel, **Atlanta, Ga.**

Sept. 23-24—Annual meeting, **Combed Yarn Spinners Association,** Grove Park Inn, Asheville, N. C.

Sept. 28-30 — Industrial Packaging and Materials Handling Exposition, Competition, and Short Course, The Coliseum, Chicago, Ill.

Oct. 4-8—18th Southern Textile Exposition, Textile Hall, Greenville, S. C.

Oct. 7-8—Annual Chemical Finishing Conference, sponsored by the National Cotton Council of America, Statler Hotel, Washington, D. C.

Oct. 14-15—Annual convention, **The Quartermaster Association,** Sheraton Plaza, Boston, Mass.

Oct. 14-15—Annual meeting, North Carolina Textile Manufacturers Association, Carolina Motel, **Pinehurst,** N. C.

Oct. 23—Fall meeting, **Textile Operating Executives of Georgia,** Georgia Institute of Technology (A. French Textile School), Atlanta, Ga.; topics: slashing and weaving.

Nov. 15-17—Fifth national Conference of Standards, sponsored by the American Standards Association, Hotel Roosevelt, New York City.

1955

Jan. 24-27—Plant Maintenance and Engineering Show, International Amphitheatre, Chicago, Ill. Held in conjunction with conference at Conrad Hilton Hotel.

Jan. 31-Feb. 1—Annual convention, **National Cotton Council of America,** Hotel Shamrock, Houston, Texas.

Jan. 27-29—Annual conference, **Textile Div., American Society for Quality Control,** Clemson (S.C.) College.

Mar. 31-Apr. 2—Annual meeting, **American Cotton Manufacturers Institute,** Palm Beach (Fla.) Biltmore Hotel.

May 4-5—Spring meeting, **The Fiber Society,** Alabama Polytechnic Institute, School of Textile Technology, Auburn, Ala.

May 16-20—Materials Handling Exposition, International Amphitheatre, Chicago, Ill.

June 25-July 10—International Textile Exhibition, Brussels, Belgium.

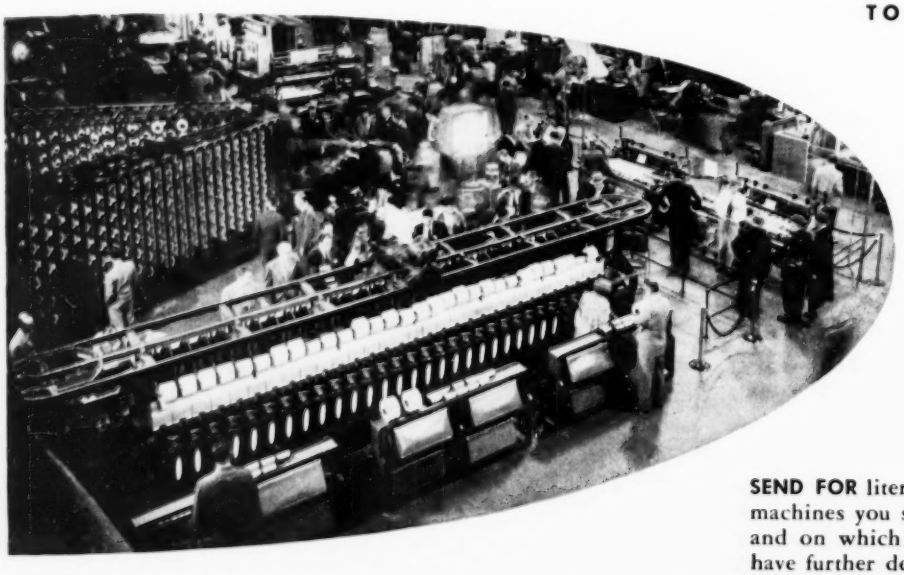
Sept. 8-9—Fall meeting, **The Fiber Society,** Massachusetts Institute of Technology, Cambridge, Mass.

BARBER COLMAN

IT WAS GOOD TO SEE YOU...

We were glad to have a chance to talk with you, and to show you the newest developments in Barber-Colman textile processing machines, at the American Textile Machinery Exhibition at Atlantic City. It was a great show and we had a grand group of visitors.

SORRY WE DID NOT GET TO TALK TO EVERYBODY. While we had 25 people staffing our exhibit, we still were unable to keep up with all those who wanted to visit with us. We regret this more than we can say and can only hope, and try, to do better next time.



ARE YOU COMING TO GREENVILLE?

The next big gathering of textile people will be at the 18th Southern Textile Exposition at Greenville, S. C., October 4th through the 8th. Will you be there? We will be on hand with some of our latest improvements, and will look forward to seeing you.

SEND FOR literature on any of the machines you saw at Atlantic City and on which you would like to have further details. It is available promptly for the asking.

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • WARP DRAWING MACHINES

BARBER-COLMAN COMPANY

ROCKFORD • ILLINOIS • U. S. A.

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BRAZIL
Quimanil S.A. Anilinas e Representacoes
Rua Glicerio 537/547
Caixa 5658 e 3431
Sao Paulo, Brazil

JAPAN
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Sampin Building
Kitakyutaro-machi 3-chome
Higashi-ku, Osaka, Japan

MIDDLE EAST
Arlind Corporation
65 Bedford Street
Stamford, Connecticut

NEW Equipment AND MATERIALS

APPROXIMATELY 20 PAGES of this issue contain announcements of new equipment and materials, much of which was on display during the recent American Textile Machinery Exhibition in Atlantic City, N. J. Be sure to check through all of them for items that may be applicable to your particular phase of textile manufacturing.—Eds.

New Pin Drafters Offer Balanced Production from Set of Three

Two new designs of Warner & Swasey pin drafters are available—one is a single head, single delivery; the other a single head, dual delivery.

These machines offer a balanced production from a set of three machines and, therefore, may be especially attractive to the smaller mill of about 5000-spindle capacity. Because of the simplicity of design, these machines can be made at a lower cost, which is an added advantage.

These machines operate at 1500 drops-per-minute, and such a speed is possible because of these new features: replaceable hardened tips on saddles; hardened timing and drive gears; new improved conductor system; new Plasflex faller bars.

The can creel has a divided frame to provide for short creels in mills of limited space. Extruded aluminum fluted rolls are positively driven by toothed timing belts.

A photo-electric type of stop motion is used which is highly sensitive to both sagging ends and broken ends and is available where 50 or 60 cycle current is used.

Pot eyes on the creel are completely adjustable to meet any requirements.

Warner & Swasey Co., 5701 Carnegie Ave., Cleveland 3, Ohio.

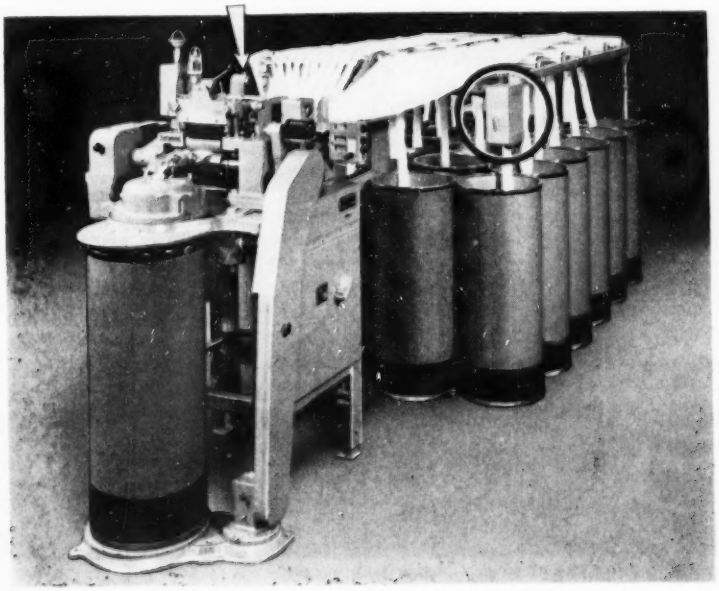
For additional data, request item G-327, using Handy Return Card on page 176.

Size Machine Requires Less Size, Cuts Drainage Loss

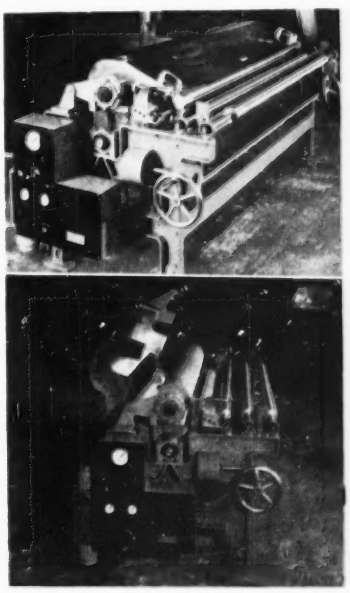
The Griffin Size Machine, designed especially for high speed slashing with the Uxbridge Gentle-Air or other high speed dryers but which operates efficiently at slower speeds with conventional dryers, incorporates these exclusive features:

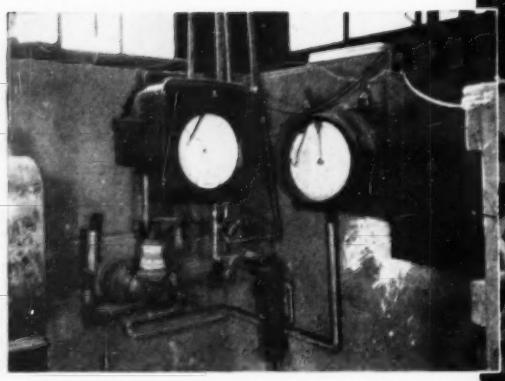
(1) Size pan completely covered—excludes cold air and retains warm, moist air; prevents floating fibers from entering size box; eliminates need for exhaust fans, hoods, duct

Single head, single delivery pin drafter (Warner & Swasey). Note photo-electric stop motion (arrow and circle).

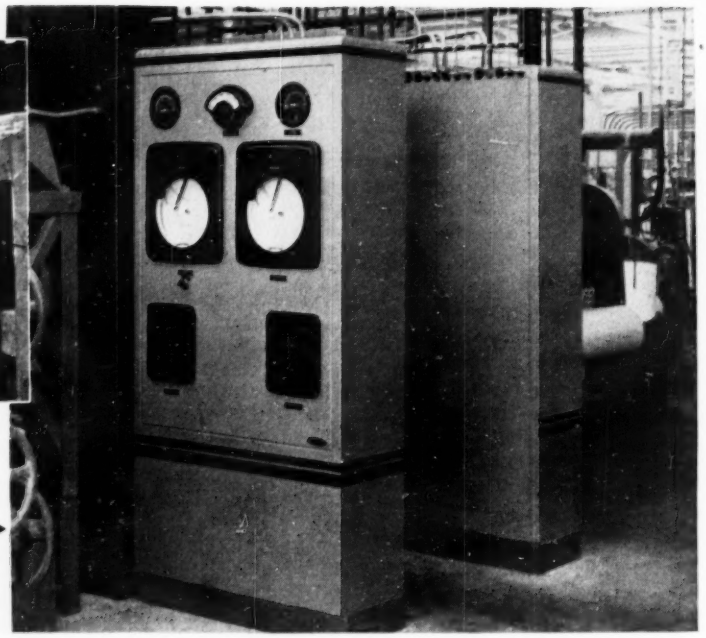


Closed (upper photo) and open views of the Griffin Size Machine.





This is part of an old-fashioned installation which lacks the convenience and efficiency of modern instrumentation.

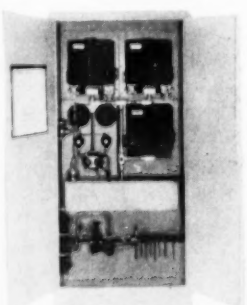


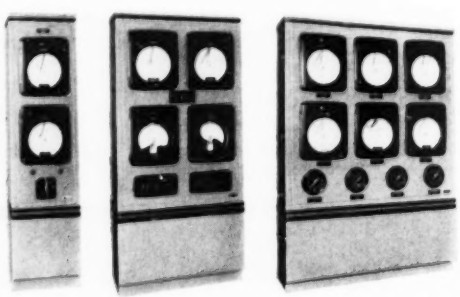
Compare this centralized Foxboro Cabinet installation of similar instrumentation, which saves time for the operator, makes his work more efficient, and gives maximum protection to the precision instruments required for his process.

See what a difference FOXBORO cabinet-mounting can make!

These photos show at a glance how much more efficient and attractive your instrument installation can be if it's integrated and centralized in a Foxboro Cabinet. Not only are the instruments protected from dust and process "atmospheres", but they're conveniently grouped together for more efficient use and easier maintenance. Those "endless steps" of the operator are a thing of the past!

Foxboro will supply a cabinet (or cabinets) to house and protect any number of existing instruments and related devices. Or your order for new instruments can be shipped to you already mounted in cabinets, completely piped and wired, needing only simple power and process connections to be put into operation. Write for illustrated and informative Bulletin 413.





Foxboro Cabinets are available in three standard sizes for 2, 4, or 6 conventional-size instruments (or equivalent). For mounting more than 6 instruments, Foxboro Sectional Cabinets (with open ends) are used . . . bolted together to form desired length. End sections have one closed side to form dust-tight enclosure. Exclusive insert-type panel construction permits easy conversion when process changes so require.

THE FOXBORO COMPANY, 487 NEPONSET AVENUE, FOXBORO, MASS., U. S. A.

FOXBORO REG U S PAT OFF **PROCESS CONTROL CABINETS**

FACTORIES IN THE UNITED STATES, CANADA, AND ENGLAND

work.

(2) Rubber covered, pneumatically loaded squeeze rolls—eliminate use of slasher cloth; give even dressing of yarn from start to finish.

(3) Insulated size pan—retains heat and requires less steam. Twenty-gallon capacity assures constant flow of fresh size; steam jacketed pans available for sizing synthetic yarns.

(4) No corrosive metal exposed to size solution.

(5) Suitable for all types of size for synthetic fibers as well as for cotton and wool.

The low capacity of the size pan reduces drainage loss to less than twenty gallons. Up to 16% less size is required.

Ira L. Griffin & Sons, P. O. Box 1576, Charlotte, N. C.

For additional data, request item G-128, using Handy Return Card on page 176.

Cotton Opener Takes Out Small Trash, Blends Stock

For more efficient removal in the opening line of small trash, the Saco-Lowell No. 16 opener was developed.

Other than the motor and drive, the machine consists of three basic assemblies: the No. 11 dust and waste extractor, the reserve box which functions as the feeding unit, and the beater section where the cleaning and blending take place.

The stock reaches the No. 11 dust and waste extractor after it has been partially opened and dusted in the No. 7 blending feeder, then further cleaned and reduced in the No. 15 opener. As this stock arrives at the No. 11 dust and waste extractor by means of a high-velocity air stream, there is another very effective dusting action.

The stock then passes into the reserve box, which is fitted with a pair of lucite windows that serve to facilitate inspection of the stock at all times. Stock is kept at a constant level in the reserve box, and overfeeding and chokes are prevented. The bottom of the reserve box is fitted with a pair of delivery rolls to assure an even flow of stock to a short lattice apron which transports the cotton to a pair of 2½" feed rolls in the beater section.

The beater resembles the conventional Saco-Lowell carding beater, but the pinning is much heavier, stronger, and of slightly coarser pitch. The normal operating speed of this beater is 800 to 900 rpm. It is completely enclosed—the upper part by a conventional steel hinged cover; the lower half, except for the opening to the outlet trunk, by a fringe roll and a series of grid bars and revolving grids.

In addition to removing practically all of the heavy impurities, this machine brings about a very effective degree of blending. In other words, a stock made up of cotton of different classes or grades emerges from the No. 16 opener in a homogeneous mass in which the various components cannot be readily detected.

After the stock is discharged from the beater section, it enters a vertical trunk which is connected to a second No. 11 dust and waste extractor at either a No. 12 lattice opener or a No. 2 reserve box. In this trunk there is a trap that removes from the stream of cotton any remaining heavy particles that may not have been removed by the action of the fringe roll, revolving grid, and grid bars. Any such particles, moving forward, strike an adjustable plate in the trunk, which prevents them from passing on with the air stream, but deflects them so that they fall, under the influence of gravity, into the waste compartment in the bottom of the trunk.

The type of cleaning obtained from the No. 16 opener, being primarily of a combing or semi-combing nature, has a tendency to straighten out crossed or tangled fibers that might otherwise become the nuclei for nep formation.

Saco-Lowell Shops, 60 Batterymarch St., Boston, Mass.

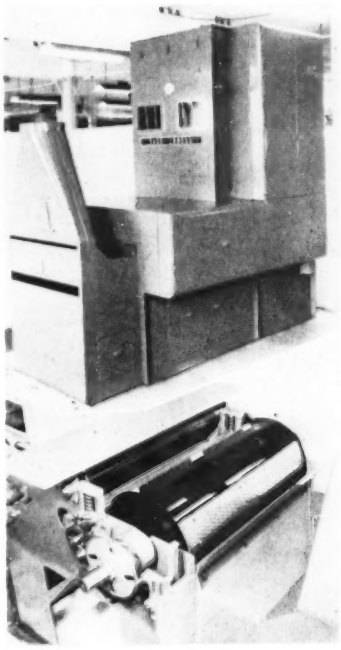
For additional data, request item G-320, using Handy Return Card on page 176.

Now Wool Fabrics Shed Water

Woolens and worsteds can now be treated with a new silicone finish to add to wool properties previously associated only with the newer man-made fibers. Identified as Dow Corning 105 Emulsion, the finish cures in 10 to 20 minutes at temperatures as low as 250 F.

Instead of detracting from the full and luxurious feeling characteristic of wool, this emulsion makes fabric woven of wool feel even more desirable; adds more apparent bulk to many constructions. And this new finish imparts a durable water repellency and a high order of resistance to staining by water borne soils, since garments made of fabric

NEW Equipment AND MATERIALS



Saco-Lowell No. 16 opener. Top, full view; below, close-up of beater.

These worsted trousers were made of fabric treated with Dow Corning 105 Emulsion, so water spilled on them (upper photo) could be easily wiped off with napkin (lower photo). Note good condition of crease.

TENNESSEE EASTMAN COMPANY
DIVISION OF EASTMAN KODAK COMPANY
KINGSPORT, TENNESSEE

ENKA RAYON

Why do these leading textile mills specify HAYES LIGHTMETAL BEAMS?

Burlington Mills
"Woven into the Life of America"

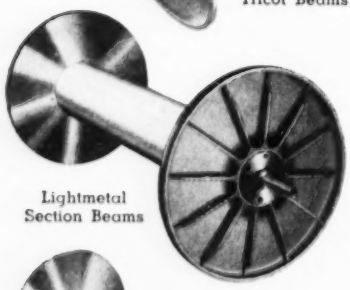
Avisco® Munsingwear HOLEPROOF Celanese® ACETATE

3M COMPANY

Lightmetal Loom Beams

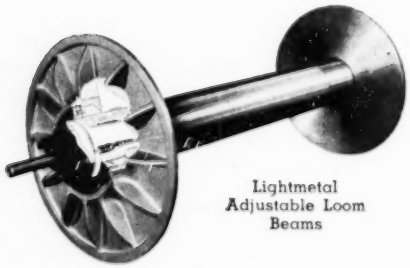
Lightmetal Tricot Beams

These textile mills choose Hayes Lightmetal textile beams because of their true-running, perfect balance, smooth surface and minimum maintenance requirements. For your answer to smooth, high-speed production, better selvages and a minimum of rejects, specify Hayes Lightmetal Beams. Write for complete information on specifications, costs and deliveries.



Lightmetal Section Beams

Lightmetal Replacement Loom Beam Barrels



Lightmetal Adjustable Loom Beams

HAYES *the world's largest producer of light metal beams*
HAYES INDUSTRIES, INC. Jackson, Michigan

EASTERN REPRESENTATIVE
J. Paul Laird
Philadelphia, Penn.

SOUTHERN REPRESENTATIVE
R. E. L. Holt Jr. & Assoc.
Greensboro, N. C.

NEW ENGLAND REPRESENTATIVE
J. S. Fallow & Co.
New Bedford, Mass.

CANADIAN REPRESENTATIVE
J. S. Fallow & Co.
Montreal, Canada

NOTE
56 additional items are described on pages 142-172.

finished with it are not wet by showers.

Creases are retained with less pressing. Wrinkle resistance is improved. Tensile strength remains unchanged or is slightly improved, while flex abrasion resistance is increased from 30 to 65%.

Of particular interest in connection with upholstery fabrics is the fact that the emulsion is also oil-resistant. Oily or greasy stains may easily be spot-cleaned from silicone treated fabrics woven of wool, synthetic or mixed fibers without leaving a tell-tale solvent ring.

Dow Corning 105 Emulsion is also fully compatible with most conventional resinous finishing solutions. Available in the form of a stable, 40% silicone emulsion.

Dow Corning Corp., Midland, Mich.

For additional data, request item G-222, using Handy Return Card on page 176.

Pneumatic Mangle Gives Process Flexibility

Extraction, simultaneous extraction and starching, dyeing, and resin application are some of the operations performed by the Niptrol pneumatic mangle. The machine has four rolls so arranged as to give three nips, and gives absolutely uniform pressure across the full width of the nip. It is suitable for wool, cotton, rayon, acetate, and the newer synthetic fibers.

The mangle has a novel pneumatic method for equalizing pressure. High pressure is exerted on self-adjusting staggered brackets attached to two segmented pressure rolls. This arrangement distributes total pressure through the length of the upper squeeze rolls to compensate precisely for the varying deflection of the roll at every point.

The nip between the upper metal pressure roll and the lower soft pressure roll is approximately 3/16 inch at maximum working pressure, which is about 250 pounds per linear inch across the entire face of the roll.

The machine will take cotton goods wet from the bleach house and extract and starch continuously in a single pass. Extraction takes place at the first nip, followed by starch pick-up in the trough, and then squeezing and removal of excess starch at the lower pressure of the second nip.

With the Niptrol, mercerizing can be done on wet goods and still give absolutely even saturation. The machine is also used after mercerizing for additional extraction to expedite drying, with substantial savings in time and steam.

The Niptrol can be made up with various combinations of tubs, immersion rolls, batchers, let-offs, compensators, folders, and drives to meet individual specifications.

Rodney Hunt Machine Co., Orange, Mass.

For additional data, request item G-338, using Handy Return Card on page 176.

Simultaneous Yarn Change on all 32 Feeds with this Circular Knitter

The Model SAAF-C knitter is an improved version of Supreme's Model SA/AF, the original, patented, variable-stripe circular machine, having a stationary head and revolving cylinder.

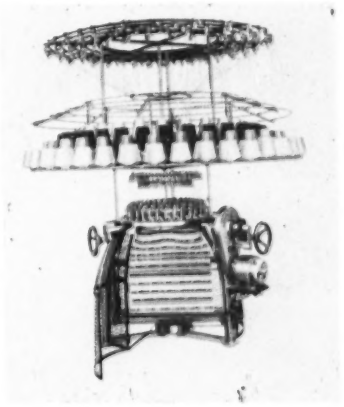
On this new model all 32 feeds contain a 4-color striping box and 3-level pattern wheel and a newly designed pattern placer, permitting simultaneous yarn changes on every feed on the machine. The pattern placer has slideable studs permanently self-retained in the design drum,

NEW Equipment AND MATERIALS

permitting finger-tip control of operation.

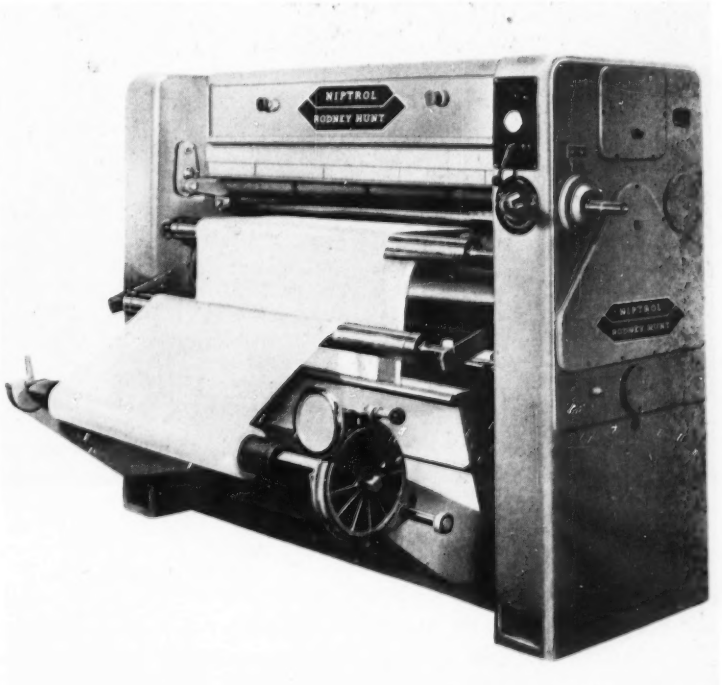
In addition to variable stripe fabrics, pattern wheel fabrics, and pattern placer fabrics, the Model SAAF-C knits lay-in fabrics, knit and tuck cloth, and knit and welt cloth. Because of its extraordinary flexibility, versatility, and high production rates, this new model is called "a one-

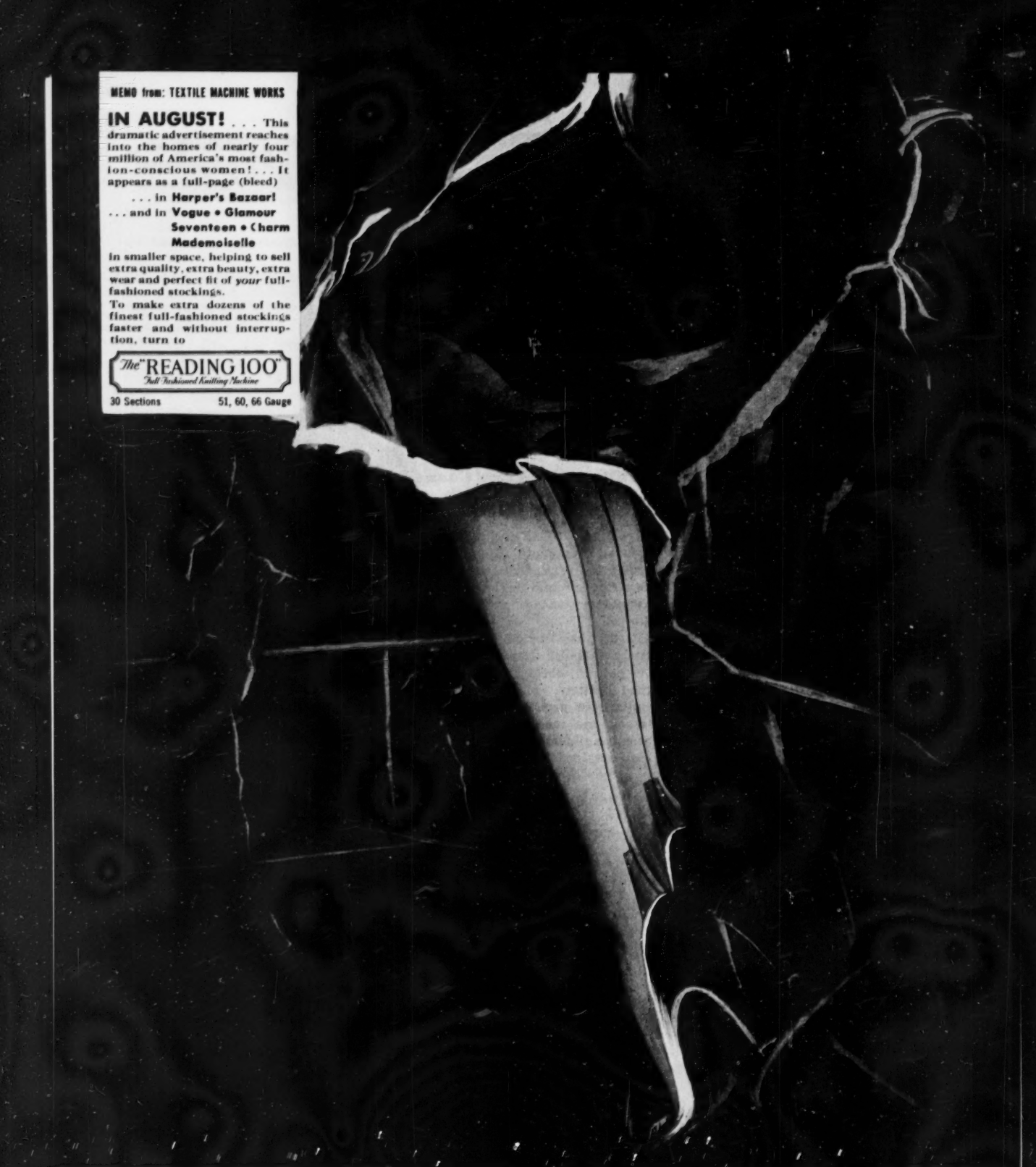
(Continued on page 142)



The Supreme Model SAAF-C knitter.

The Niptrol pneumatic mangle by Rodney Hunt.

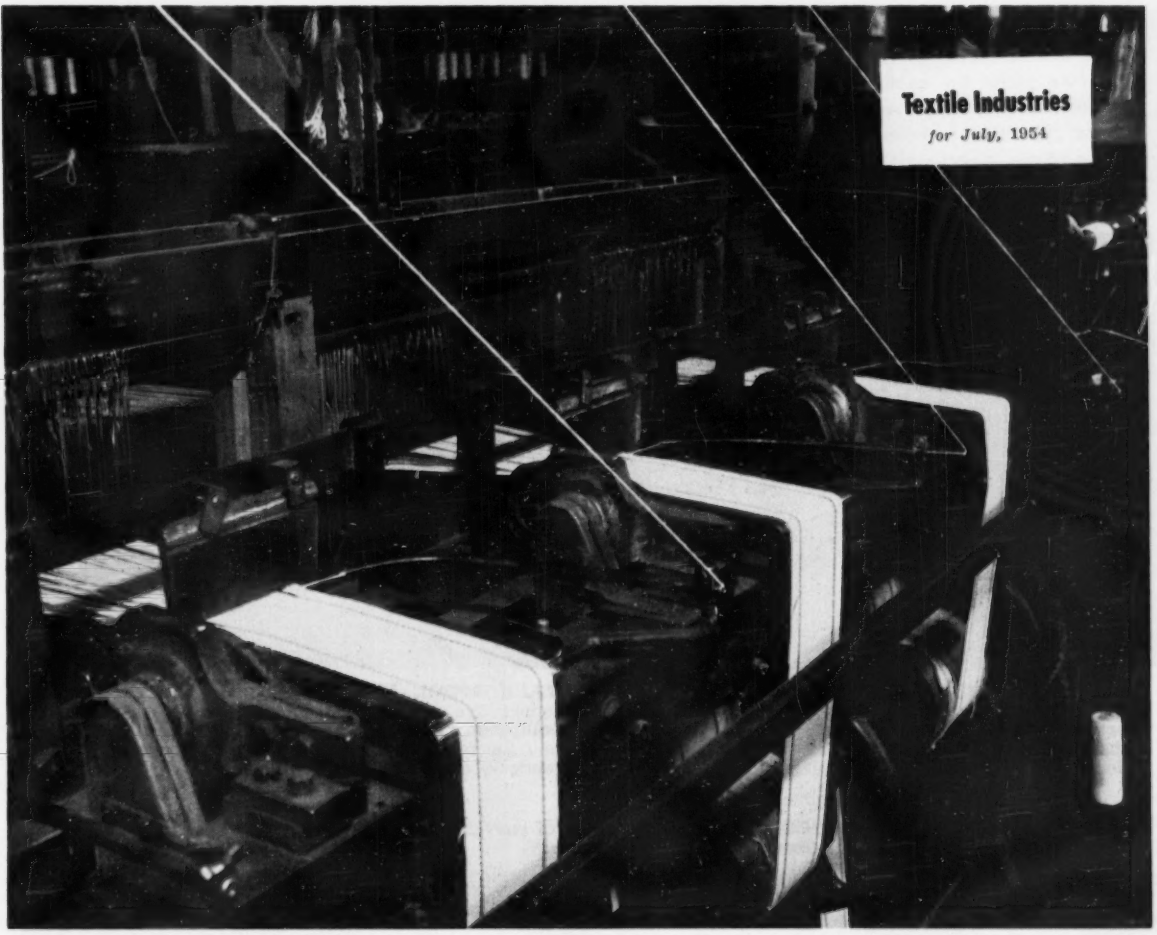



MEMO from: TEXTILE MACHINE WORKS
IN AUGUST! . . . This dramatic advertisement reaches into the homes of nearly four million of America's most fashion-conscious women! . . . It appears as a full-page (bleed)
. . . in Harper's Bazaar!
. . . and in Vogue • Glamour
Seventeen • Charm
Mademoiselle
in smaller space, helping to sell extra quality, extra beauty, extra wear and perfect fit of your full-fashioned stockings.
To make extra dozens of the finest full-fashioned stockings faster and without interruption, turn to
The "READING 100"
Full Fashioned Knitting Machine
30 Sections
51, 60, 66 Gauge

SEE YOUR LEGS AS OTHERS SEE THEM . . .

Yes, it's the seam in your stockings that flatters your ankles and accents the lines of beauty in your legs. It's the seam that forms the pencil-line link between hemline and shoe, that emphasizes sheerness and color and gives your legs a more finished look. It's the seam that says "these stockings are custom knit to fit skin-smooth at every crucial point—*these are full-fashioned stockings!*"

© 1954 Hosiery Fashions



HOLLOW NEEDLES ARE EMPLOYED to insert the picks. Note how the filling passes through the entire needle. The housings adjacent to the fabric enclose the sprockets, chains, and gears which drive the false selvage looper mechanism.

NEEDLES INSTEAD OF SHUTTLES

Double Output

IN THIS NARROW FABRIC PLANT

Staff Prepared

EXCLUSIVE

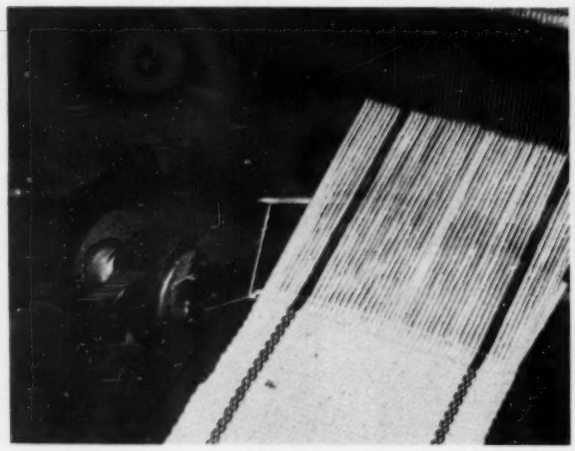
RESOURCEFULNESS and ingenuity paid off 100% in solving a narrow fabrics production problem at Puritan Cordage Mills, Inc., Mallison Braided Cord Co., Div., Athens, Ga. Production of narrow fabric webbing was doubled on two C&K multi-shuttle looms which have been in operation since about 1930. Despite the fact that the looms are old, the changes incorporated on the looms provide modern appearance, production capacity, and operating features which are a credit to the mill today.

Two employees of the mill converted the two looms and obtained twice the footage of fabric per hour obtained on the regular multi-

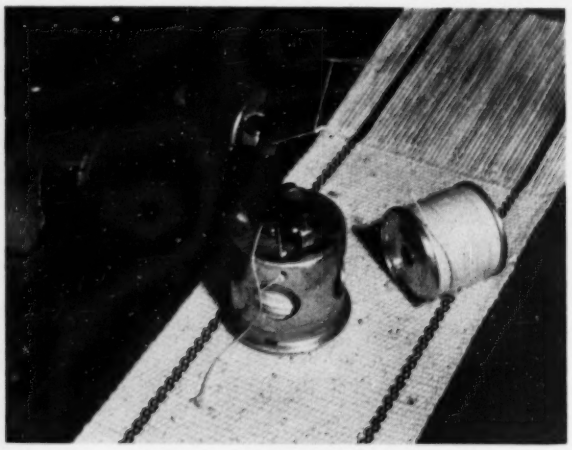
shuttle looms of the same model.

The needle-loom conversion inserts two picks for each cycle of the needles (which serve in place of the shuttles); whereas, the shuttle looms insert only one pick for each cycle of the shuttle. Fabric made on the needle loom has a false selvage on one side of the fabric, and on the first stroke of the needles the pick is looped into the false selvage, thereby permitting insertion of another pick on the return stroke.

The supply of filling is continuously maintained on the needle loom in that tailings from the cones of filling may be tied to



FALSE SELVAGE LOOPER closeup shows how false selvage loops the pick to hold it while the needle inserts another pick upon its return trip or withdrawal. The selvage looper revolves once for each alternate pick to anchor the filling on the left side of the fabric.



YARN SPOOL AND CONTAINER for false selvage looper are made of aluminum. Spool container is equipped with a thread tension device. These parts and the false selvage looper driving mechanism were made especially for the conversion.

FILLING IS SUPPLIED FROM CONES mounted on creel of converted narrow fabrics loom. Tailings of cones may be tied together to provide continuous supply of filling.

the fresh supply without stopping the loom. Filling must be replaced in the shuttles (on the standard looms) while the loom is stopped, upon exhaustion of the supply of filling in each shuttle. The supply of looper thread for the false selvage has to be changed; however, this operation may be performed quickly. The looper thread is wound on small aluminum spools (see accompanying illustrations).

The needle loom is confined to slightly lighter weight goods than the standard looms because the spools and other parts are small. Standard C&K loom parts were used throughout the conversion, except for the needle and false selvage mechanisms which were made in the mill shop.

The false selvage looper mechanism is driven by a series of chains, sprockets, and gears, which rotate the selvage thread spool one revolution for every alternate pick. All parts of this mechanism were designed and built in the mill.

The looms require minimum maintenance and have provided additional production capacity at a low cost. The converted looms have bolstered production and further demonstrate what can be accomplished in an enterprising organization.

Corporate Membership in Lowell Textile Library Association

The Lowell Textile Institute Library Association is offering corporate memberships to corporations or individuals who might be interested in these privileges at The Lowell Technological Institute Alumni Memorial Library:

1. Designated employees of corporate member can withdraw books for official use or home study —personally or by mail.

2. Call on library staff for reference problems of minor nature.

3. Use many works available at large libraries only, through interlibrary loan agreements.

4. Use extensive collection of government publications.

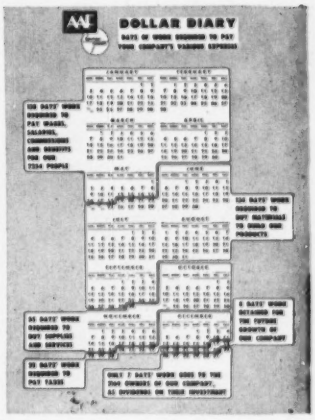
For information, write Alumni Memorial Library, LTI, Lowell, Mass.

"Dollar Diary" Explains Profits to Employees

A 1954 calendar has helped to explain business costs, taxes, and profits to employees of American Air Filter Company, Inc., plants in Louisville, Ky., Moline, Ill., and Chicago.

The "Dollar Diary" translates each item of the company's 1953 operating statement into days of work as shown in the accompanying illustration.

A giant "Dollar Diary" calendar was used to present the company's 1953 annual report to foremen and executives of the company; and a smaller, poster-sized "Dollar Diary" was placed on all company plant bulletin boards, and made available to individual employees on request.



Reproduced above is the poster-sized "Dollar Diary" which was placed on bulletin boards.

Setting Up an Incentive System? Here Are 10 Steps to Follow

1. Select operation. Starting point should be made where the best cooperation is available to insure best chances of success in the first application.

2. Determine tools, methods, set-up. The operation should be studied with a view to its efficiency and steps taken to correct and improve it.

3. Introduce set-up to operatives. Employees should thoroughly understand just what is to take place. If they are in a position to participate, so much the better. Their questions and suggestions should be heeded.

4. Train workers in new methods. This should be done quickly after introduction of set-up. Time gaps tend to breed doubts. The "tell, show, test" formula is good to follow.

5. Study effect of improvements. Inclinations of employees to "soldier" should be combatted by explanations, time studies or discipline.

6. Construction of rate. This should be done with all conditions right and operators well trained. Ample readings should be taken; the operations should be broken down into elements.

7. Selling the rate. First, sell supervisory personnel. All concerned should then be called together, details presented, and promises exacted to give the newly formed standards a fair try.

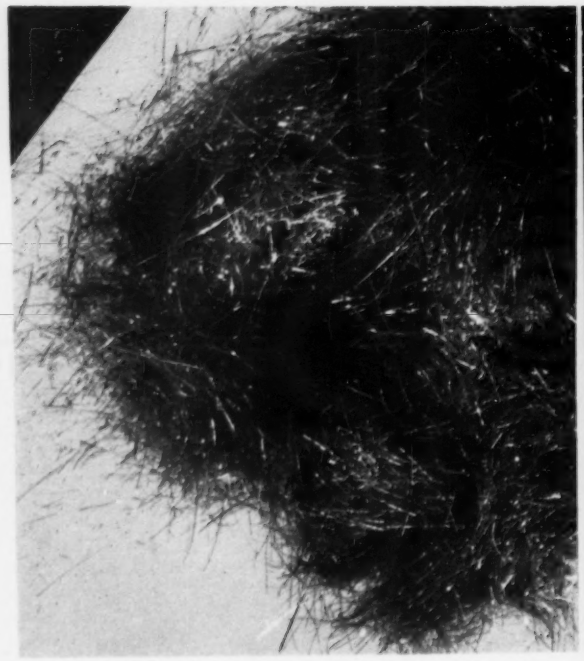
8. Follow-up performance. This should follow shortly after the explanation. Technicians making the installation should accompany employees to instruct, explain, and adjust. Operatives should lose nothing in wages by the change. Temporary wage adjustments can be made to keep up production and maintain good will.

9. Publicize performance. This is done orally and by means of conspicuous charts and bulletins posted in the plant.

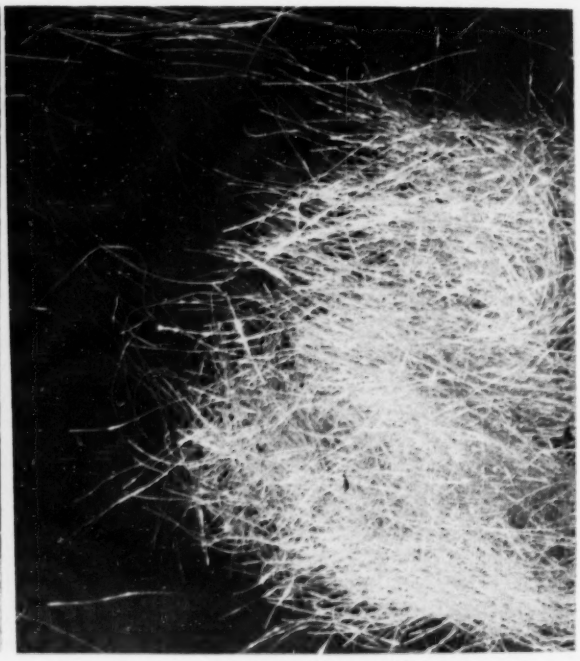
10. Control performance. Excess cost factors should be itemized and budgeted, comparing actual costs with the budget. Another control is a "Kardex" record of individual performance which can be charted for convenience.

The incentive plan installation should be under constant observation and study. It should be audited at least once per five-year period.

From remarks by Kurt Salmon of Kurt Salmon Associates before the recent annual meeting of the Underwear Institute.

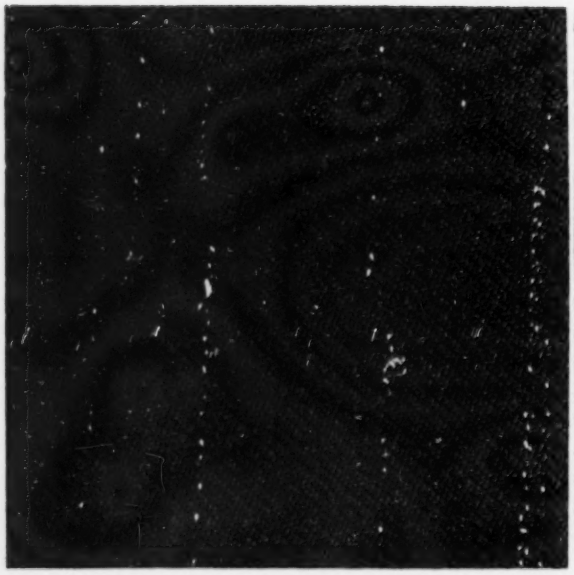


Reynolds' aluminum staple 1/250" wide.

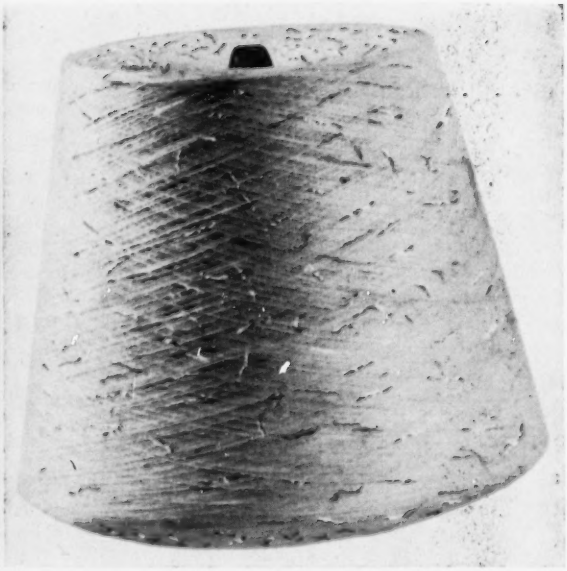


Lurex staple by Dobeckmun, 1/128" wide.

METALLIC STAPLE—



Worsted fabric with metallic decoration.



Cotton yarn with 1/128" metallic staple.

Dobeckmun's new crimped staple, 1/120".

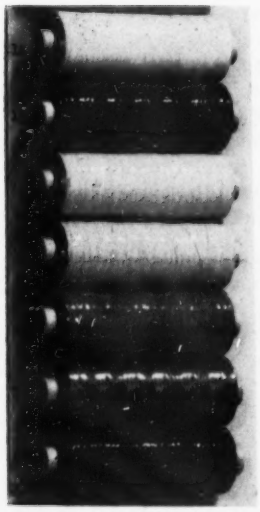
Worsted top with 2½" metallic staple.

can you spin it?

The answer is "yes"—but you'll meet difficulties. Here's how they've been overcome in other mills.

Staff Survey and Report

EXCLUSIVE



Metlon is available in seven new ceramic colors and in 13 metallic colors.

METALLIC staple is currently being run on cotton and worsted spinning systems in blends with a wide range of fibers in metallic percentages of 5-14%. Yarn producers are preparing the staple from continuous "filament" aluminum base yarns by conventional staple cutting means from stock that has been slit to about 1/120 in. in width. It is the development of this very fine slitting that has made staple usage possible, since previously established widths of 1/32, 1/50, 1/64, 1/80 and even 1/100 in. did not generally lend themselves to commonly used spinning systems.

Lame and laminette yarns imported from France have been used for many years in both staple and continuous form. However, while quite fine, they have had the disadvantage of high price, tarnishability, and a harshness that makes processing difficult and limits styling possibilities. During the past seven years, producers in

RAW MATERIAL FACTS

	Dobeckmun	Metlon	Reynolds
Staple Length	as ordered	3/4-4 in.	1½-2 in.
Width	1/128 in.	1/100 in.	1/250 in.
Color Lines	standard "porcelain" multi-colored	standard "ceramic"	gold and silver*
Price (tentative)	$3.90 lb.	$3.90 lb.	—

Note: Development work on crimped staple is being conducted by Dobeckmun and Metlon.
* Other colors under consideration.

this country (principally The Dobeckmun Co. and Metlon Corp.) have introduced a product that is comparatively soft, tarnishproof, and in price ranges that fit the budget of volume fabric production.

How Metallic Yarn Is Made

In the manufacture of metallic yarns, aluminum foil is laminated on both sides with a clear plastic film to lend strength and elasticity. The laminated film is brought down to the desired width by a series of slitting operations, and the resulting yarn is then spooled. If a "silver" yarn is desired, the laminating adhesive is left clear; a variety of colors is produced by pigmenting the adhesive.

Staple is prepared by feeding spooled metallic yarns into an adjustable cutting machine. While the weaving and knitting trades have become accustomed to obtaining the continuous metallics supported with single end or cross wraps of silk, nylon, rayon, and Fortisan, this is not required in stock being prepared for staple because the metal depends on the strength of the base fibers in the blends rather than its own strength to give better production results.

The introduction of staple has opened several new styling and usage possibilities. First, it adds metal to a cloth but eliminates costly supporting operations, since the metal is incorporated in a body yarn of cotton, rayon, wool, or blends rather than standing alone in the cloth as a continuous end or pick. By the same token, multiple shuttle requirements can be eliminated, as a "touch" of metal in a fabric can be accomplished by one filling yarn rather than by inserting an occasional end or pick among yarns of standard fibers. Most significantly, it makes possible random, glittery effects that are more subtle, so that yarns which have been blended with metal are more suitable for applications in men's wear, such as suitings, hosiery, gloves, mufflers, etc., as well as wide ranges of other outerwear and home furnishing cloths.

Properties of Aluminum Base Yarns

Probably the most important clue to adapting metallic staple to spinning systems is an understanding of the physical and chemical nature of the metallic staple. These properties and the effect they have when metallic staple is run on cotton and worsted system equipment are as follows:

Weight of Fiber. Since metallic staple is derived from a yarn rather than from fine extruded or natural fibers, it is heavier and greater in diameter than normally used fibers. Where the diameters of cotton, wool, and extruded fibers range from 9.5-30 microns, or 0.00036-0.0012 inches, the ribbon-like metal fiber is, at its finest, about 0.008 inches. In terms of weight, compare a fiber denier range of 1.5-25 commonly used for spinning in extruded fibers with about 200 denier in the metal.

This condition causes metallic staple to behave almost as an impurity in fiber-to-yarn operations. It tends to drop out of the blend at stages such as cotton card licker-in screens that are designed to remove heavy components; also the effect of any process that creates a centrifugal force is to throw some of the metal out. In cases where this occurs in sliver, roving, or yarn form, protrusion of fiber tails results when the fiber has not been ejected.

Laminating Film. The films most generally used to laminate the aluminum stock are of either cellulose acetate or butyryl acetate. The metallic yarn therefore will "take" classes of dyes developed for acetate yarns.

Lamination. Adhesives and heat and pressure conditions used to attach the laminating film to the metal are such that they will stand temperatures up to 180 F. After that point the film tends to become separated from the metal or to delaminate, accompanied by dulling of the metallic effect.

Spinning

There seem to be as many approaches to spinning metallic staple as there are mills processing it. However, certain general practices, based on the characteristics of the fiber, have found general acceptance.

Before examining these practices it might be well to consider a principle that was, and is, in use—that of breaking the continuous yarn during advanced stages of spinning by the drafting action of rolls. This actually was the first method tried in the application of metal to spun yarns, and led to the current staple put-up. By feeding continuous, spooled, metal yarns into cotton roving, spinning or twisting frames from regular creeling facilities, "staple" has been made during spinning. A logical extension of this method is the tow-to-top process, where converting equipment such as the Pacific Converter or the Turbo Stapler could be used to obtain uniform blends of metal and synthetics in long staple yarns.

Selection of Staple. Since producers are prepared to provide a wide range of lengths, mills are in the fortunate position of tailoring the product to fit specific requirements of their spinning systems and the effect desired in the cloth. The following lengths have been more or less accepted by spinners:

Cotton system: ¾ to 1½ inches

Worsted system: 1½ to 2¼ inches

Planning to Run Metallic Staple? Try These Processing Tips

USE THE FINEST STAPLE WIDTH AVAILABLE. The closer you can come to the weight of the base stock in the blend, the better.

TRY LONG STAPLE. It is generally believed that the longer the staple, the easier it is to retain the metal in the blend.

YARN COUNTS shouldn't exceed 14s cotton count or 20s worsted count.

DON'T EXPOSE metallic staple to unnecessary cleaning and opening. Add staple as late as possible: card hopper for worsted, picker for cotton.

EXPECT to lose about 30% of the metal in overall processing. This can be reclaimed.

SLOW DOWN speeds, especially at points creating centrifugal force. Speed reduction of about 1/3 is advisable.

BYPASS as many operations as possible. Remember, the nature of metallic blends is novel and irregular. No need for perfect nep-free yarns; card settings can be opened.

CONTAMINATION dangers are the same as with other fibers outside of normally processed stock. Segregate and protect machinery. Waist high curtains will suffice; metallic staple is thrust downward.

REMOVE UNNECESSARY TIGHT THREAD GUIDES. Slub catchers should be taken off, ring travelers and shuttle guides should be coarse to prevent corkscrews.

WATCH TEMPERATURES. Dyeing and finishing temperatures should not exceed 180 F. Treat the metal as you would acetate rayon.

USE PURE DYES. Laminated metal will take acetate dyestuffs; if any is present in formulas designed to dye base fibers in the blend, metallic effects will be altered.

ELIMINATE TAILS by selection of weave to bind them down with warp, or shear them off. Alternatively, tails can be used as a styling feature.

A popular opinion is that the longer the staple, the easier it is to reduce loss due to throw-out in spinning.

While widths as coarse as 1/32 and 1/64 in. have been used in specialized applications for carpets and upholstery, best spinning results on all systems have been realized with the finest diameter available, the 1/120 to 1/128 in.-width metal. Generally, the closer the metal is to the major fibers in the blend, the more compatible it will be in spinning.

Worsted Spinning

The practical spinning limit of metallic staple blends on the worsted system is about 20s. All experience reported here has been on the Bradford System.

Wool is an excellent medium for the blending of metallic staple, presumably because the scaly surface structure of the wool fiber presents numerous indentations and projections which capture and hold the metallic fibers. This characteristic is helpful in overcoming the major problem of staple loss.

Where to Blend. Metallic staple as delivered by producers does not require any opening or cleaning before carding; it is fed directly into the hopper feed of the card. While blending calculations to compensate for loss of metal must be based on the experience of the individual mill, a loss of about 30% can be used as a fairly reliable guide. A good average final yarn percentage of metal seems to be 5-8% to achieve yarns with best appearance and running factors.

Carding practices must be geared to the following principles:

1. Speeds must be reduced
2. Settings must be open

Since worsted carding is comparatively slow to start with, this phase of yarn manufacture fits in well with the first requirement. Cylinder speeds should be reduced by about one third.

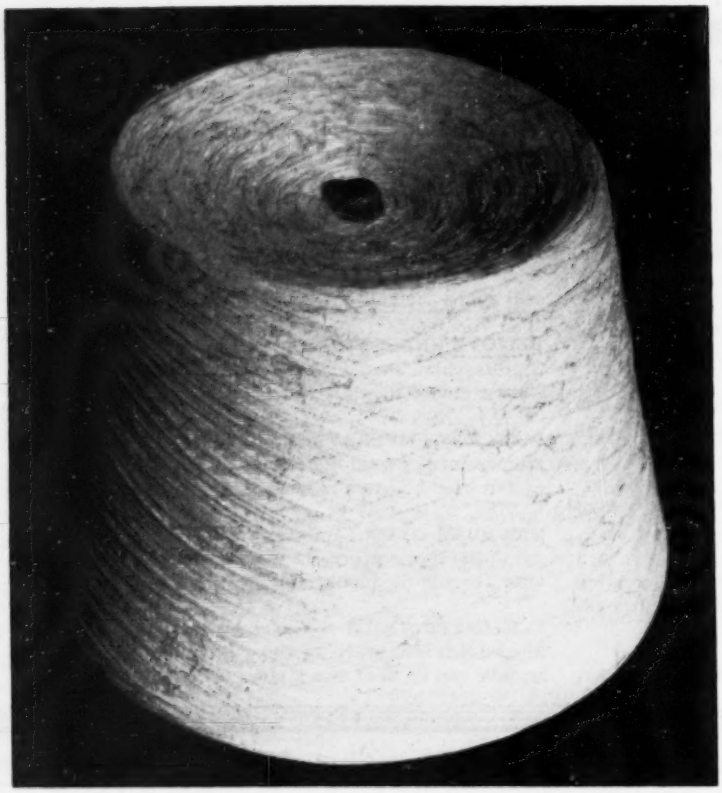
Card settings will depend a great deal on the clothing used and the basic stock being processed, but overworking must be avoided by opening settings, particularly at the breast and first cylinder. This presents no quality hazard due to neps—an irregularly surfaced and heterogeneous novelty yarn is desired, not a perfect worsted yarn. One-cylinder cards are used to advantage in metallic blends since they reduce the time during which the metal is exposed to opening and cleaning actions that tend to throw metal out.

Gilling. Good results have been secured by a single gilling operation. One mill runs the metallic blends on the basis of bypassing as many operations as possible.

Here again, speed reductions of about one third are desirable. In the case cited, where only one operation "in the pins" is used, 10 to 12 pins-per-inch fallers are recommended.

Drawing. Three to four drawings are recommended in reducing operations. Speed reduction is again advisable.

Spinning. Flyer spinning has been found best suited for metallic blends on the worsted system. The low speed of the system (about 2500 rpm average), designed to produce smooth yarns from coarse fibers, is ideal, considering the weight of the metal and the tend-



METALLIC FIBERS were introduced into this 50-50 acetate-viscose blend by converting metallic filament into staple and then processing to give the blend in the yarn. Process is not yet ready for public disclosure.

ency for it to protrude from yarn.

Ring Spinning. Reductions in spindle speeds are particularly important here because of the ballooning action taking place between front rolls and travelers. One mill reduced from 4500 to 3000 rpm. Herr open-head travelers have proved helpful in minimizing corkscrews.

Waste. As is common practice with mohair and other coarse fibers, metallic fly can be swept off the floor and returned to card hoppers. Some mills have reclaimed a better grade of metal by dusting the sweeps before reentering them into the card.

Contamination. Ideally, a complete range of yarn manufacturing equipment should be set aside and isolated to produce metallic blends without affecting other mill runs. The standard method of cleaning cards by running a waste wool lot through to pick up metallic fibers is suggested.

The danger of contamination is, if anything, less than with other fibers. Because of its weight, metallic staple shedding from cards, drawing frames, and spinners, tends to drop to the floor rather than floating in the air as lighter fibers normally do. Waist-high curtains separating equipment running metal from other work have proved to be adequate.

Cotton Spinning

Many people in the trade give credit to Gray Mills, Inc., Gastonia, N. C., as the originators of spinning staple metallic yarn blends in this country. This mill formerly blended purchased metallic staple on the cotton system, but management found that excessive waste was made. It was decided that a more satisfactory yarn could be made using the mill's own device, by which filament is made into staple and then processed to give the blend in the yarn. In this way no waste is made. However, the system used by Gray is not ready for public disclosure.

Representatives of Gray Mills explain that the attempt to process purchased metallic staple on the cotton system resulted in lack of parallelism. Furthermore, waste was exceptionally high because cotton system processing is designed to throw out heavy particles and fibers. This was especially true on heavy metallic staple, resulting in exactly the opposite of the effect desired—cotton stayed in and metallic was thrown out. Basically, using the cotton system for blending was attempting to make a machine do exactly the reverse of what it was designed to do.

However, at other mills counts as fine as 14s are currently being run on the cotton system. Generally, speed reduction is less important than in the worsted system, while elimination of contamination is of major importance. Reports on mill experience point more towards running metallic blends at existing settings and speeds with normal cotton mill procedures being followed.

Blending. Good laps have been made with little metal loss on a one-process picker by introducing the metal at the lay down, sandwich style, in back of the feeder hoppers. If 5-6% of metal is desired in the finished yarn, 10% should be blended at the outset. Although no exact figures are available, overworking should be avoided by holding beater stages to a minimum.

Carding. While somewhat coarser clothing is advantageous in order to minimize the tendency of the metal to become imbedded in the wire, regular 100/110's clothing has been commonly used.

Mill men generally prefer roller top cards for metallic blends, but flat cards are in common use. Here again, cleaning ease dictates the preference.

An important aid to waste reduction is covering up licker-in screens, as is the case in blends of other fibers that are on the coarse side.

Some mills are reported to have tried putting metallic staple into

the card web just before the sliver goes through the coiler head; the method did not work satisfactorily.

Drawing, Roving, and Spinning. Two factors lead to better running of metal blends in these operations: add a little more twist than usual to assist in keeping the metallic fibers in the roving and yarn, and reduce drafts somewhat.

Winding. In order to reduce metal loss due to centrifugal force and catching of protruding fibers, one mill has cut winding speeds and removed slub catchers.

Contamination. If possible, it is best to separate equipment for exclusive use with the metallic staple. All precautionary measures should be taken, including curtain hanging. Thorough cleaning, particularly at the cards, is necessary if production is switched away from metallic blends.

Weaving

The actual preparatory and weaving operations present no unusual conditions. While most yarns of all spinning system origins contain protruding metallic fibers, these tails are to a great extent bound down by the warp in weaving. Any close settings through which yarns pass should be opened up or adjusted to coarser fittings in order to prevent tail catching.

Dyeing and Finishing

Limitation of temperatures in all wet processing operations is a must. A good rule to follow is not to exceed those dyeing and finishing temperature conditions (180 F) established for acetate-bearing goods Where temperatures exceed this limit, goods have been known to finish up without the slightest visual metallic effect.

In fabrics requiring clear faces, shearing to remove any metallic tails that protrude from the cloth is common practice.

In piece dyeing, dyers should be cautioned to use pure dyestuffs. Any presence of acetate dyes will color metal intended to be left in its original state.

Styling

While a great many variations in appearance of metallic staple in yarns are available to the stylist through producers' standard color lines, plus multi-colored and "porcelain" or "ceramic" variations recently developed, probably the most effective styling to date has called for gold or silver in combination with contrasting colored cotton, wool, or rayon.

The chemical nature of the staple gives fabric constructionists a flexible and inexpensive way to achieve wide color ranges. When blended with any raw fiber other than acetate, silver metal can be dyed because of the affinity of the laminating film for acetate dyestuffs. This allows not only a color range of silver plus color, but the cross dyeing possibilities make available two-tone effects of metal color plus color of the base fiber.

Generally, metallic blends have been planned for use in the filling in 100% shuttling of the same yarn. There is no reason to put this limit on planning, however; and it is also quite practical to use these yarns in the warp.

Selection of weaves is important. The stylist would do well to assist production and quality control men by keeping the weaves as tight as possible to minimize tails. In some cases these tails have been found to be desirable stylewise and fabrics are planned to have them.

With metallic staple as a new tool, fabric planners can look to trades that have steered away from metal-bearing fabrics because of the bold nature of the continuous yarn; the delicate and subtle metallic touch now made possible by the availability of aluminum base staple opens up wide application in new cloths and variations on staple constructions.

"Father of Sanforized" Honored on 80th Birthday

The great contribution made to the textile industry and economic progress in many countries of the world by Sanford L. Cluett, "Father of Sanforized" and vice-president of Cluett, Peabody & Co., was commemorated on the night of May 5 at a dinner given by the Textile Square Club at the Astor Hotel, New York, to honor Mr. Cluett on his 80th birthday.

The dinner was attended by 500 leaders of the textile industry representing the United States, Canada, and overseas countries.

Ephraim Friedman, director of R. H. Macy's Bureau of Standards and principal speaker, recalled the strife between the textile and allied industries a quarter of a century ago over the problem of shrinkage. He cited the introduction twenty-four years ago of Mr. Cluett's process which he said was at first greeted with skepticism but is today almost universal. He commended Mr. Cluett for the fact that he made the process available to anyone, competitor or not.

Barry T. Leithead, president of Cluett, Peabody & Co., and also a speaker, pointed out that in the whole history of the industry there were few similar incidents where "an entire industry took hold of one idea and went all out to share its benefits with the consumers the world over." He presented a plaque to Mr. Cluett to mark Cluett, Peabody's appreciation of both his service and inventive genius.

A highlight of the occasion was the presentation to Mr. Cluett by Robert M. Dowling, vice-president in charge of the "Sanforized" Division of Cluett, Peabody, of a bound volume of congratulatory messages from nearly every licensee in the world (see photo above).

INDEPENDENT LABORATORY IN MILL performs tests on stock received, stock in process, and stock shipped. →

BONAFIDE PRODUCT DATA USED BY WORSTED MILL TO

Build Customer Confidence

Staff Prepared EXCLUSIVE

PALMETTO Worsted mills, Laurens, S. C., employed the U. S. Testing Co., Inc., to establish and maintain a testing program to assure acceptable standards for worsted yarns produced in this mill. The mill furnished the working space for the laboratory in the plant, and U. S. Testing supplied the personnel, equipment, and know-how.

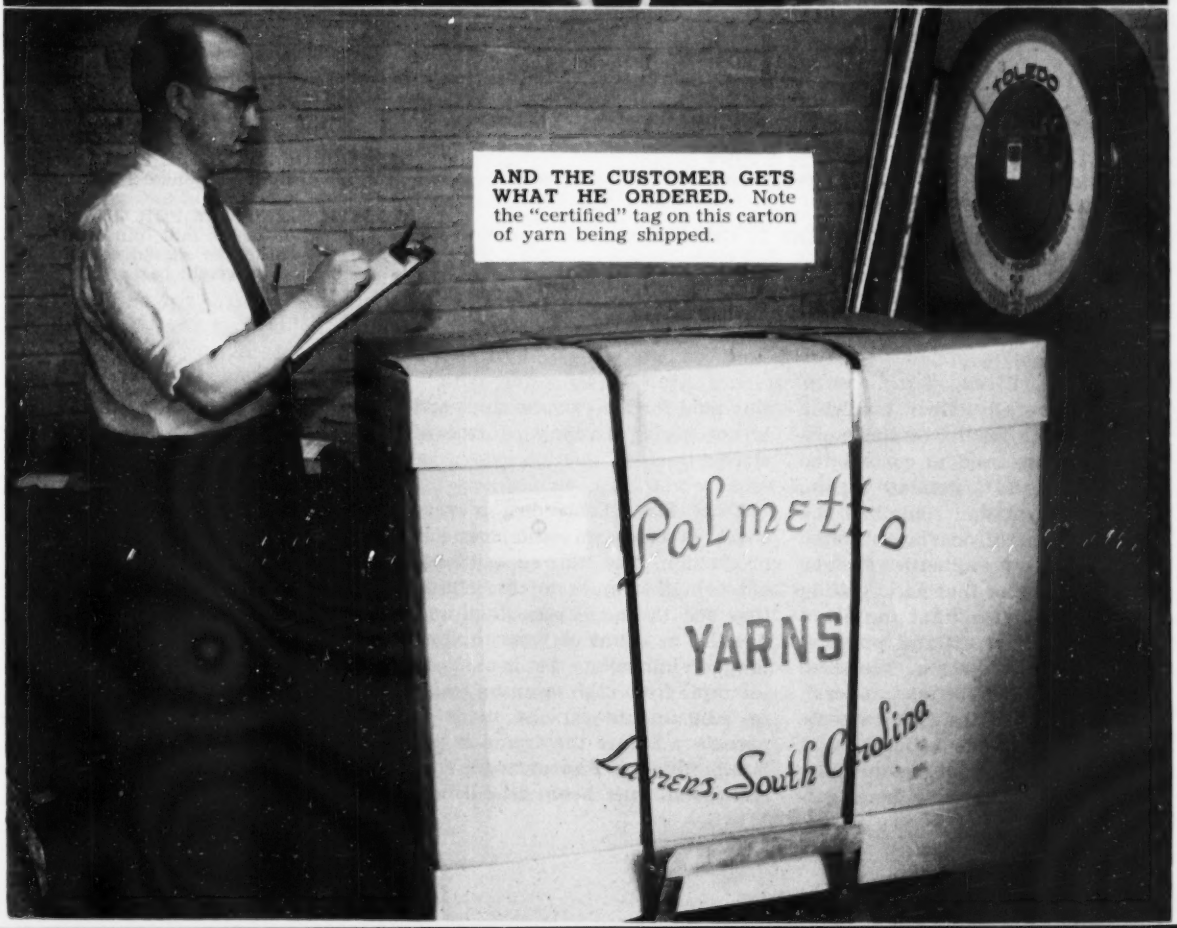
The program was initiated also to furnish bonafide information about Palmetto's yarn to both mill officials and customers of the mill. This information has served to establish customer confidence in Palmetto yarns, and the testing service has minimized mill management problems related to the actual tests.

Here's how the program operates at Palmetto:

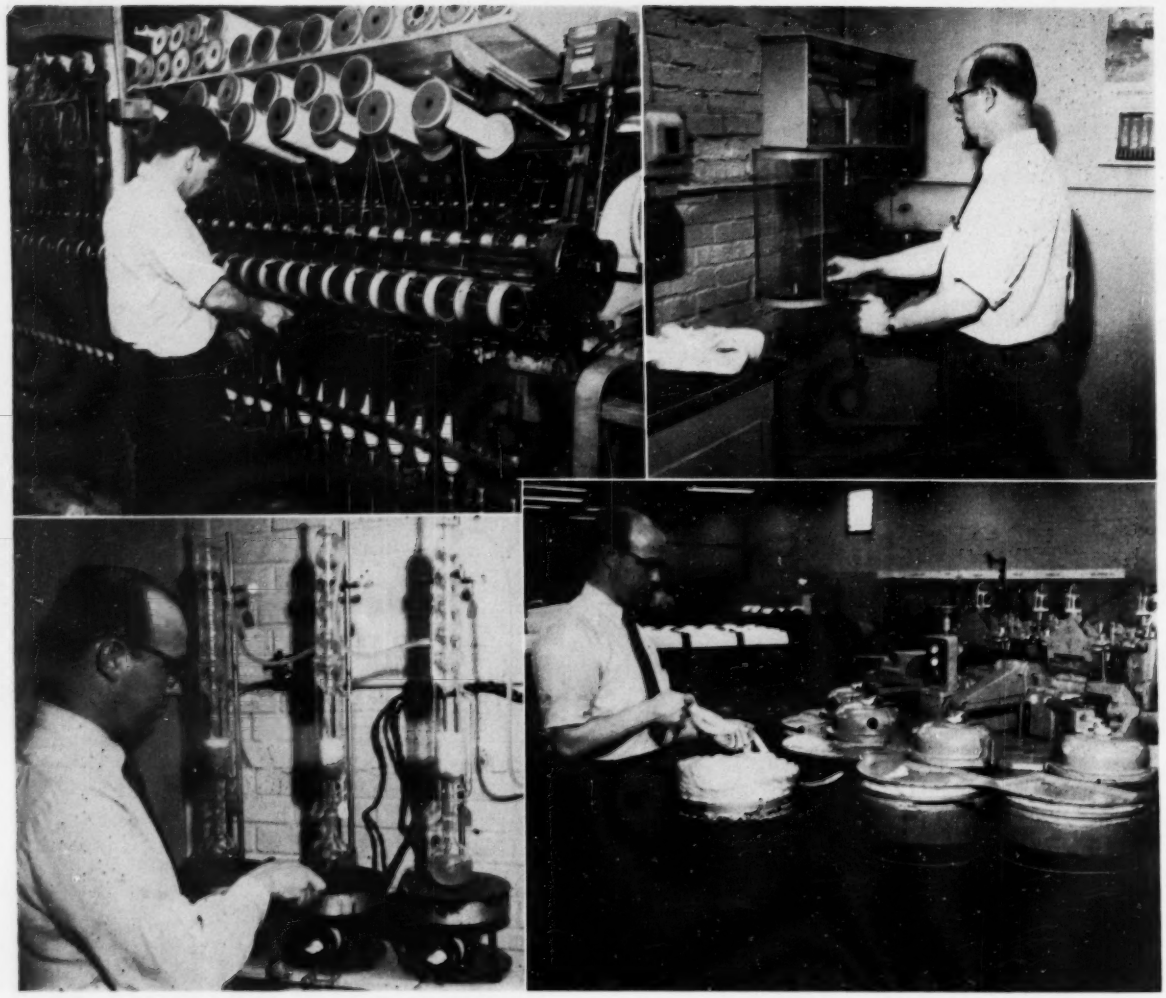
Moisture. Since wool tops and wool yarn are bought and sold on a regain basis, the amount of moisture in the stock should be established accurately. Now U. S. Testing determines the amount of moisture in the tops and yarn, thereby protecting both buyer and customer in this instance.

Each day as the worsted yarn is packed, the gross, tare, and net weight of each package is

SO THAT QUALITY IN THE MILL IS MAINTAINED, machinery corrections may be made quickly.



AND THE CUSTOMER GETS WHAT HE ORDERED. Note the "certified" tag on this carton of yarn being shipped.



(Upper left) **SIZE TEST ON EACH COUNT** in production is made daily. Mill superintendent takes samples to lab for testing.

(Lower left) **WOOL OIL CONTENT IS CHECKED** on all tops received at the plant. Not more than 3¼% of oil on regain basis should be present in tops. Here J. C. Ashworth of U. S. Testing removes oil from samples by using carbon tetrachloride in laboratory equipment.

(Upper right) **RESULTS OF MOISTURE TESTS** are used to correct the net weight to standard regain.

(Lower right) **ADDITIONAL TESTS FOR OIL** are made at point of application in the mill (pin drafting). Yarn going to mill customers should contain no more than 4% oil on regain weight basis.

checked carefully. Upon invoicing the yarn, the results of the moisture tests are used to correct the **net weight to 13% standard regain.**

The information obtained on each shipment of yarn is sent to the purchaser (by Palmetto officials) as positive proof that he is getting what he paid for (that he is not buying excessive oil and water at yarn prices), and a "certified weight" label is affixed to each case of yarn so tested to accompany the yarn to its destination.

This certification also assures the yarn manufacturer that he is getting paid for the yarn he ships and is not giving away yarn free of charge.

Yarn Size. Each day a yarn check is made on each count in production. The mill superintendent brings samples to the laboratory for testing. Upon starting a new lot or count of yarn in spinning, an immediate test is made on a sample from each spinning frame so adjustments can be made if necessary before the frame is put into production. As soon as the correct count has been established, routine daily checks are made for size.

Twist. Samples to be duplicated are tested for size and twist. Each count started is tested for twist; then routine tests are made to maintain the desired twist.

Evenness. Every time a new lot is started at drawing and at each operation thereafter, an immediate test for evenness is made. If a satisfactory operation is not being performed, the offending machinery is stopped immediately, and the necessary adjustments are

made to correct the discrepancy.

Periodic checks are made to be certain that difficulties do not go long unnoticed. For example, a large lot would require more tests than a small lot to keep it under continuous surveillance.

Quality Classifications. Five classifications have been established for yarns as measured in this instance on the Uster tester. These are: Very Even, Even, Average, Fair, and Uneven. Examples of readings for these classifications on the Uster tester using mean linear integrator are as follows: On 18s worsted count, any reading less than and including 12.70% is considered Very Even; 12.71 to 14.35% inclusive is Even; 14.36 to 16.00% inclusive is Average; 16.01 to 18.30% inclusive is Fair; and 18.31% and up is Uneven.

These figures and others were arbitrarily established by this mill to provide a flexible scale and well integrated classifications. Palmetto runs quarter blood wool and blends (medium wools).

Tops Checked Too. When a shipment of tops is received at the mill, each container is weighed, and samples of top are taken to determine the moisture content. Tare weight is obtained, and the conditioned weight is figured accurately (15% regain allowed).

This information is supplied to management officials at the mill so they can check the figures with those on the invoice (which the technician has not seen). In this way the test results are completely unbiased and give the facts independently and accurately.

Top Size. All top received is tested to determine average weight per yard. Random balls are selected; 10 yards are measured and weighed for average weight in grains per yard. The tops are also tested for evenness so enough factual information will be available to make a blend at drafting. The Uster tester is used for this operation, and the same classification headings are used for tops as for yarn. However, a different arithmetic scale is used.

Oil Check. The amount of antistatic wool oil (emulsion) is checked on a routine basis. Tops received at the mill should not contain more than 3¼% of oil on regain basis, according to industry standards. Yarn going out to mill customers should contain no more than 4% oil based on regain weight. Weight of oil (percentage) is ascertained in the laboratory and the information is supplied to the mill officials who may use it as they see fit.

If a shipment of tops should have too much oil in it, the top maker is notified to make the necessary corrections. In this way, the mill knows exactly how much oil is in the tops and therefore can determine how much oil to add at drawing.

Further tests are made at point of application of oil in the mill. This is done primarily at the time a new blend of wool is started through the mill. Samples are taken at drawing for this purpose.

Other Benefits. In one instance uneven roving was found coming from one reducer. The bad roving was noticed in laboratory tests. An adjustment on the reducer immediately corrected the trouble in this instance, and in less than 10 minutes after trouble was noted, the offending reducer was making Very Even roving.

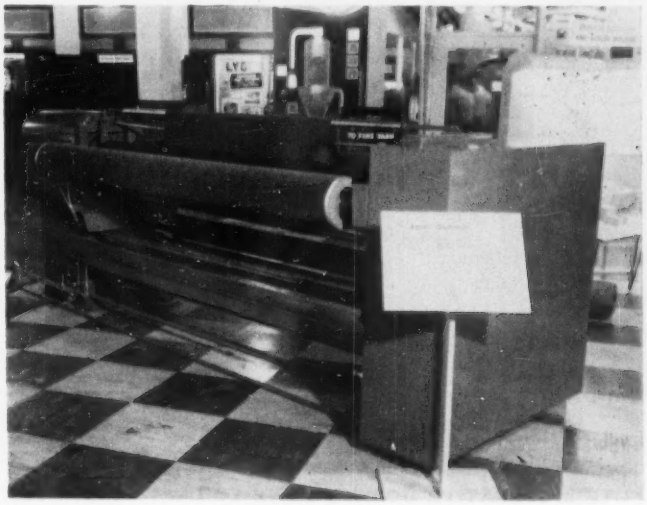
Overseers often bring samples to the laboratory for testing after fixing or changing a machine. This evidence indicates that the laboratory and testing have stimulated in-plant interest in the work and product.

The program was started at Palmetto last February, and yarn counts are running closer to the correct number than they were at the outset. The mill has found that customer confidence has been achieved by supplying bonafide information about the products, and the laboratory operation serves independently, thereby relieving mill officials of the specialized personnel and management problems attendant with the operation.

Finishing by High-Frequency Oscillation May Soon Be Practical

Open-width, continuous fulling, and improved penetration in dyeing, washing, and other wet and dry processing operations is the goal of the Adams Oscillator, under development by Proctor & Schwartz, Inc., for Continental Mills of Philadelphia, Pa.

High-frequency oscillation of the rolls shown in the photograph, which was made by a TI editor in the Proctor and Schwartz booth at the Atlantic City Show, will be used to effect thorough penetration of soaps, dyes, and finishing compounds.



THIS OPERATIVE DOESN'T HAVE TO LEAVE HER WORK TABLE NOW when a different type of hosiery transfer is needed. She simple turns to the rotary transfer magazine on her left, locates the appropriate roll of transfers, moves the magazine on its track so that roll will be in line with work on table, and starts applying transfers.

Save time in hosiery finishing with this mill-made

TRANSFER MAGAZINE

Staff Prepared
EXCLUSIVE

C. W. ANDERSON Hosiery Co., a Clinton, S. C., hosiery finishing plant, is using hosiery transfer rotary magazines to accommodate approximately 172 different heat transfers for full-fashioned hosiery. The machines—designed by George W. Frady, an employee at the mill, and built in a local shop—have proved advantageous in mill use.

Advantages. Some of the advantages noted for the magazines are as follows:

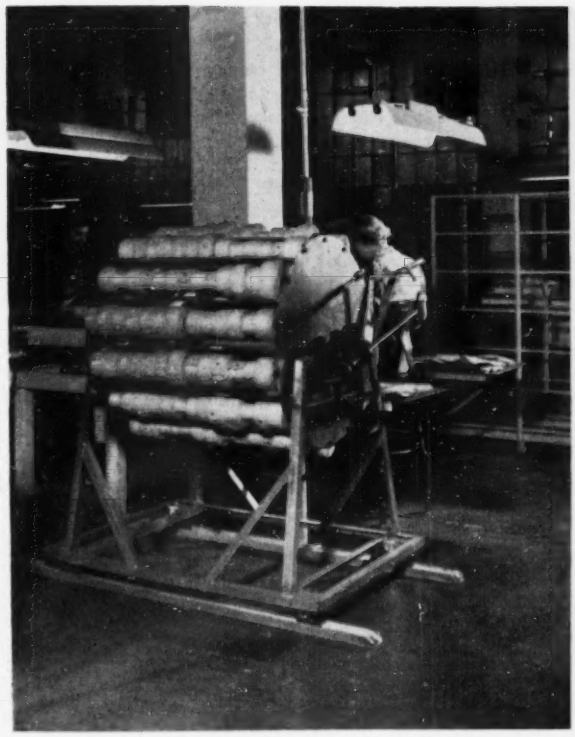
(1) Considerable time is saved by eliminating the need to search for transfers in a bin-type rack or other storage facilities for keeping the different types of markers.

(2) Space requirements for transfer storage have been confined to approximately four feet square for each rotary magazine. Two of these machines have already been built and placed in service at Anderson Hosiery Co.

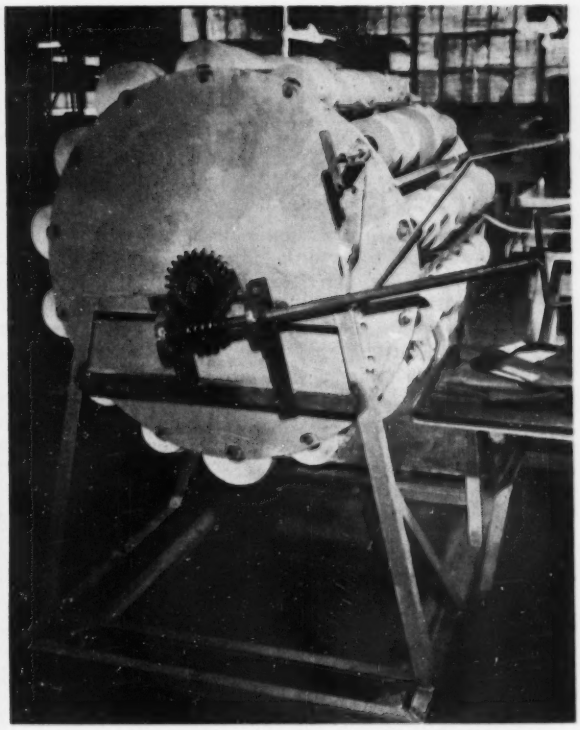
Formerly the transfers were kept in four wood bins, each measuring 6′ high, 6′ wide, and 1′ deep. The wood bins were each divided into 36 compartments to accommodate the different types of transfers.

(3) The transfer magazines are much more convenient than the old method of handling transfers in this mill. Now the transfer operator does not have to move from her working position at the table to get a different size or style of transfer (see accompanying illustrations), thereby reducing the fatigue element on the job.

(4) Production has been increased notably as a direct result of



FULL VIEW of the mill-made rotary magazine for hosiery transfers. Note tracks on floor.



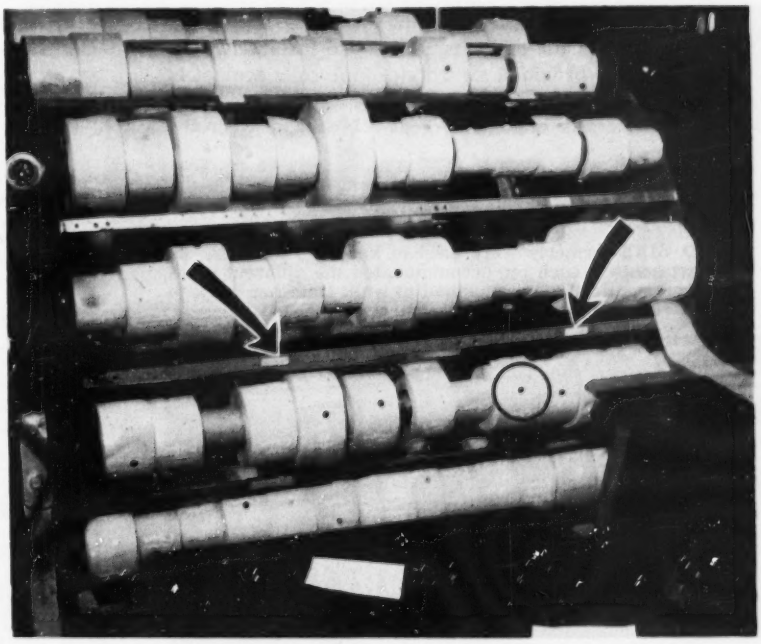
END VIEW. Note crank, worm, and gear arrangement for easy rotation of magazine reel.

the rotary magazine installations. The transfer operators have increased their production an average of 35%, conservatively figured, according to management officials at this mill.

(5) Costs have been reduced in that the operators now produce more units in less time, thereby reducing the unit cost. The operators have also increased production sufficiently to merit a pay increase which has been granted.

This mill marks more than 172 different styles and sizes of hosiery with heat transfers. New styles have been added since the magazines were built, and plans are underway to build a magazine with additional capacity.

Orders are packed only as they are received from the sales agents, and orders are accepted for any amount ranging from ¼ dozen upward; therefore, a quick change from one type of transfer to another is particularly desirable in this instance.



LABELS (indicated by arrows) on metal braces identify rolls of transfers. Thumb tacks (see circle at lower right) secure the ends of the transfer rolls. Transfers are arranged in the reel according to trade names, styles, and sizes of hosiery.

Operation. The transfer operator sits at her work table with the transfer magazine placed on tracks at her left and adjacent to the table (see illustrations). The magazine is mobile on tracks which permit movement in two directions a total of 26". This feature allows the operator to place the magazine

Women's Hosiery Survey Reveals Trend to High Quality

As part of its service program to mills and retailers, Karl Lieberknecht, Inc., of Reading, Pa., has just completed a survey of women's hosiery buying habits which shows a trend to quality-priced hosiery. The survey was made on a national basis in the cities of Los Angeles, San Francisco, St. Louis, Milwaukee, Atlanta, Dallas, Boston, Denver, Scranton, and Seattle.

Over 5,000 women were surveyed. It seems that the buying public is not constantly on the lookout for low-priced "bargain" hosiery. The survey returns indicate a decided preference for quality hosiery ranging in price from $1.25 to $1.75. Practically all of them (94%) preferred nylons, with 60 gauge, 15 denier the most popular.

The survey showed that 88% of the women buying hosiery across America today prefer full-fashioned stockings. Further, returns indicated that full-fashioned hosiery is acceptable for all occasions and all seasons. 99% stated they wore full-fashioned hosiery regularly throughout the winter, 82% during the summer; and, of these, 86% wear full-fashioned in daytime, 87% during the evening hours.

Plain heels have better acceptance than fancy heels. Where fancy heels are bought, it is usually as part of a wardrobe also containing plain heels. However, almost 68% prefer plain heels.

Other facts brought out are: most women buy stockings according to specific lengths, and wash them after each wearing; definite trend toward finer-gauge hosiery — 60-gauge and finer received 50% of the total preference votes; while women generally do buy hosiery in multiple pairs, the average hosiery wardrobe is low . . . holding only about three to four pairs of stockings.

in position to feed the transfers toward the iron from the roll and in a straight line across the working table. A single handle on the magazine is provided for the operator's convenience in moving the machine from side to side.

The magazine reel is locked into position by a spring-loaded cap pin which covers the exposed screw heads on the outside of the reel. A hand-crank is provided to rotate the reel. A worm gear on the end of the hand-crank engages a gear on the reel shaft; however, the reel is easy to turn without the crank, reducing manual effort to a minimum.

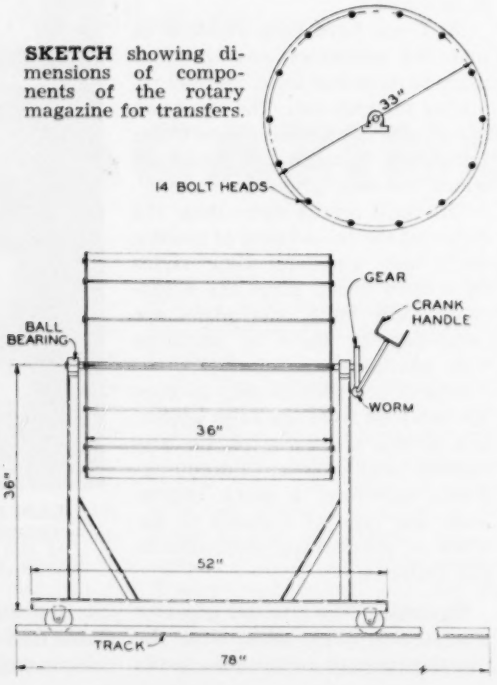
14 rods span the reel ends. Each of these rods accommodates 13 rolls of transfers, and the rods are fastened to the reel ends by means of stove bolts.

Ends of the paper transfer rolls are fastened by thumb tacks when the rolls are not in use. Small metal braces between the transfer rods serve to hold labels which identify the transfers on the respective reel bars. The transfers are arranged in the reel according to trade names, styles, and sizes of the hosiery.

When a roll of transfers becomes exhausted, a fresh roll is placed on the operator's table until the end of the shift. Then the fresh roll is placed in position in the reel.

WOOD BINS formerly were used to keep the transfers. 36 compartments in each bin accommodated the different types of transfers, and the operator had to walk from her work to the bin every time a different transfer was needed.

SKETCH showing dimensions of components of the rotary magazine for transfers.



MILL MEN met at Catawba Country Club, Hickory, N. C., for the spring meeting of the Piedmont Division of the Southern Textile Association.

DISCUSSION PANEL included (left to right) F. M. Johnson, Pacific Mills, moderator; J. L. James, Erwin Mills; Joe Delany, Joanna Cotton Mills; Bob Stutts, Carolinian Mills; and H. C. Estes, Pacific Mills.

North Carolina operating executives consider recent

Machinery Developments

Staff Report

APPROXIMATELY 65 mill men attended a meeting of the Piedmont Division of the Southern Textile Association at the Catawba Country Club, Hickory, N. C., on May 8, and heard Gene Bozeman of Atkinson, Haserick & Co. talk about European textile machinery developments. Mr. Bozeman stated that beautiful machines are advantageous in that they are easy to keep clean, and they provide a good psychological atmosphere for employees who like machines with good appearance and the attendant easy-to-clean feature.

Mr. Bozeman described a recent trip to Europe where he saw a complete card assembled in 40 minutes. This factory utilized straight line production methods and produced 60 complete cards in a 40-hour week. All parts are made to close tolerances, he said, and require no "hand fitting."

Ben Dobson, managing director of Platt Brothers, Ltd., Oldham, England, stated that the laboratory facilities of his organization have been utilized in extensive study to evaluate large package production. In view of the fact that labor cost is not as important in Europe as it is in America, Mr. Dobson stated that in Europe a 12" traverse with 2¼" to 2½" rings is the economic optimum, considering spindle speed, floor space requirements, and other pertinent details.

In answer to a question regarding the status of long staple processing, Mr. Dobson asserted that European mills do not process the same staple synthetics as American mills. The tendency to spin longer staple lengths is disappearing in Europe where many mills now draw the line at 2½", he said.

Highlights of the Atlantic City Show* from the mill man's view-

*Much of the equipment displayed at the recent American Textile Machinery Exhibition, which has not previously been described in "Textile Industries," is reported in this issue, beginning on page 67.

point were discussed by a panel comprised of J. L. James, Erwin Mills, Cooleemee, N. C.; Joe Delany, Joanna Cotton Mills, Joanna, S. C.; R. T. Stutts, Carolinian Mills, High Shoals, N. C.; and H. C. Estes, Pacific Mills, Rhodhiss, N. C. F. M. Johnson, Pacific Mills, Rhodhiss, N. C., acted as moderator for the panel.

Drawing. In discussing the Shirley drawing, it was emphasized that the "secret" of this drawing was supposed to lie in the fact that the fibers are given a rest period during the drafting. This is accomplished in a "no-draft" zone. Also, the other "half" of the advantage was said to be in the fluting of the rolls. Special fluting is claimed to hold the cotton more firmly on the bottom roll, thereby reducing slippage.

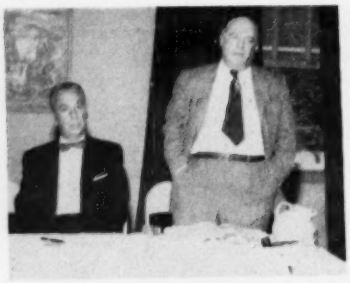
It was brought out that the Saco-Lowell Positube coiler head puts two additional pounds of sliver into each can and with less waste in that loose fibers have no area in which to accumulate. In this device there is no large calender roll—only a solid roll is used—no tongue and groove arrangement is employed, it was said.

Roving. Some discussion ensued upon mention of the Whitin frame equipped with a hand crank at the end of the frame for setting the rolls. This arrangement is similar to the mechanism used on worsted frames.

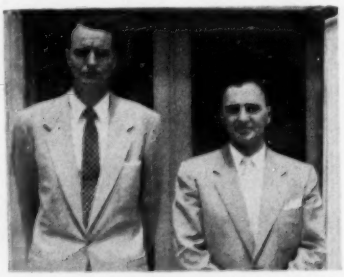
One man stated that this unit would be of more advantage to a mill running various fibers in view of advances that have been made in controlling the characteristics of cotton blends. This man said that the accessory would be of doubtful value in a cotton mill.

Another speaker stated that in synthetics the staple is uniform, and changes are not frequent; therefore, the accessory would hardly be worth the cost. The advantages of this type of adjustment would be more useful in wool processing where fiber lengths vary considerably and where changes have to be made quickly from time to time.

Someone asked about stop motions on roving frames and whether these devices were too sensitive to be practical. Several mill men explained various features of the Adams stop motion on roving frames and assured those interested that the accessory was well worth the investment and that it was entirely practical.



EUROPEAN TEXTILE MACHINERY was discussed by Gene Bozeman (right) of Atkinson, Haserick & Co. H. C. Estes (seated) of Pacific Mills, introduced the speaker.



NEW OFFICERS ELECTED. Bob McCrary (left), Carolinian Mills, High Shoals, N. C., was elected chairman of the Piedmont Division of STA to serve for the next two years. Clarence Willard (right) of Pacific Mills, Rhodhiss, N. C., was elected vice-chairman to serve for the next two years.

Spinning. It was revealed that Saco-Lowell has No Lube rings on 16 trial frames which are showing good results. These frames have operated as much as 160 hours at 7,000 feet per minute traveler speed. After 160 hours at this speed, no damage was evident on traveler or ring.

A special grease on porous metal provides the advantage, it was explained. The rings have straight sides and one flange. The bottom of the ring holder has a hollow place for the grease supply, and a hole serves as a level-indicator for the grease supply. These rings require lubrication once every 10 weeks.

One speaker told of seeing a twister equipped with wood rings made from pieces of maple flooring. This was a mill-made installation, the rings being made in the mill shop. The wood rings were impregnated with oil and had been running for 1½ years at double the usual spindle speed in this mill.

Dyeing. A Morrison raw stock dyeing machine was described briefly. This machine was said to save chemicals and dyestuffs. Production was set at 1200 pounds per hour, and more even shades at lower cost were claimed.

Other items mentioned briefly as worthy of special attention were: a padder which leaves less moisture in the material in process; and dry cans run by V-belt instead of gears.

Bobbin Stripper. Terrell Machine Company has a new bobbin stripper which pushes the roving off instead of employing wire fillet to tear the roving off. One mill man explained that his mill is using the new model bobbin stripper and that it operates twice as fast as the old model. Also, the new machine is easy on the bobbins and actually polishes older bobbins in the normal process of operation.

A Model CT5 Parks-Cramer blower in spinning reportedly paid for itself in two years in one mill using this new model equipment.

Tow Stapler. In explaining the Turbo stapler, it was revealed that this machine takes Orlon (for example) tow, stretches it, then breaks it. This staple may be then mixed with regular cut staple for making knitting yarns. Upon making sweaters from this yarn, the stretched staple in the yarn shrinks, thereby giving a full yarn which makes a good knitted garment of unusually good appearance and hand.

Weaving. The Crompton and Knowles W-3 loom equipped with sliding pick mechanism to permit pick and pick operation using as many as six colors was discussed briefly. This loom will run pick

"We Want to Keep our Plants Electrically Modern"

By Walter L. Roark, Jr.*
Electrical Engineer
Avondale Mills

As the machinery and processes of a textile mill are modernized, the electrical systems of the textile mills must be modernized in order that the additional loads imposed upon them might be met adequately, safely, and efficiently.

Switchgear. To insure reliable operation we began our main electrical modernization program with the switchgear.

During the past five years we have installed six new switchgears in our various plants. Of these switchgears, five have been metal enclosed outdoor types and one was a metal enclosed indoor type. All of the switchgear equipment installed has been of the air-break, draw out type with a main incoming line breaker and from 9 to 18 feeder breakers. The selection of the main breaker size and its interrupting capacity was carefully made for each substation according to the duty that could be imposed by the substation.

Each switchgear contains a ground detector and a full compliment of totalizing meters with 3 phase current metering on the individual feeder breakers. We believe our switchgears are as up to date as possible.

Distribution Circuits. Along with modernizing the switchgears comes the modernization of the distribution circuits. In modernizing our distribution systems we found that by carefully analyzing our old circuits we could group some of them into larger circuits and work in complete circuit protection starting at the switchgear. We have found that in most cases the 500 MCM cable has been the most practical size for our main feeders and have installed these main feeders in conjunction with the installation of new switchgear where they were needed.

Lighting. As the quantity of light needed throughout the mill was increased, the 85 watt R.F. and incandescent fixtures were replaced with the new open fluorescent fixtures which were equipped with either 2-40, 3-40 or 2-85 watt bulbs. At each plant where we have installed planned lighting we have standardized on the type of the lighting fixture to conform with the most prevalent type fixture already in use. By doing this we have reduced the number of different spare parts that must be carried in stock, such as ballasts, starters, lamps and lamp sockets. Where fluorescent lighting was altogether new we used the 2-85 watt open unit in our installations.

As the lighting levels were raised the power needed for lighting was increased and in some cases this was doubled or even tripled. The old lighting circuits had to be replaced with new circuits of greater capacity with shorter runs and less voltage drop. The large oil filled transformers that once hung on the wall outside the plant and furnished power to the entire mill lighting system began to be replaced by smaller dry type transformers that were placed inside the mill as close to their respective load centers as possible. With the increased number of lighting transformers came the problem of balancing load on the three-phase supply.

To cope with this problem we divided all large areas such as a spinning room or weave room into three equal parts with respect to lighting load and used three dry type transformers, one for each phase. Where the load is not large enough to split up like this, we endeavor to balance the load with other areas served by the same circuit and by doing so have been able to keep our voltages from becoming appreciably unbalanced due to lighting load. In some of our plants where our supply voltage has been found to vary a good bit we have installed voltage regulators on our lighting circuits.

Motorization. In modernizing the electrical application we have placed individual motors on the equipment such as spinning frames, looms, twisters, slubbers, speeders, some new card installations, and slashers.

We are aware of the ever increasing use of electrical power throughout our mills and therefore keep a sharp lookout for new equipment and new methods which will enable us to keep our plants electrically modern.

*Extract of paper presented before the recent Textile Industry Conference on Electrical Problems and Equipment at Georgia Institute of Technology, Atlanta.

and pick fabrics by making false picks when a given color is held in one box or another for a single pick by the sliding pick mechanism. The loom equipped with this mechanism was operated at 180 ppm at Atlantic City.

Another Show? Some mill men were reported as saying that if they were again confronted with the same situation, they would not go to the show. This attitude and the reasons for it were discussed.

Mill men at the meeting said that there was actually no concrete information obtained at the show. Each individual was not interested in everything at the show and was delayed in trying to get to see the exhibits that were of interest. Several men stated that it would be better to break down the show into smaller spheres of interest and bring each different type or category of machines closer to those interested.

Several statements were made regarding the presence of representatives from Japan, Switzerland, and other foreign countries making sketches, photographing, and otherwise studying American machinery for the apparent purpose of copying the newest features to better compete with American industry.

Such practices were said to be undesirable.

for quality repps, it's

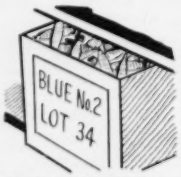
INSPECT and CORRECT

Staff Prepared

EXCLUSIVE

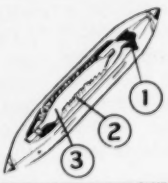
Take These Preventive Measures When Weaving Repps

1. Raw materials should be selected with care. Purchase AAA grade for warp stock, AA for filling, and insist on at least 75% exfoliation test to minimize lousiness.



2. Don't mix dye lots of filling. Mark each lot with its dye lot number and provide storage bins for each color lot. Don't start weaving a new cut with a lot that is very low.

3. Check cloth on the loom for cockled filling. This condition is very often invisible during weaving. Have the weaver run his hand across the full width of the goods. With some training he can spot the defect immediately and report it to the fixer.



4. Check shuttles often and thoroughly. Watch (1) tensions, (2) bad fur, and (3) quill alignment, to prevent cockling.

5. Weave short cuts. If a persistent weaving imperfection exists and is not caught by the weaver, taking 12½ yard cuts from the loom will allow inspectors to catch and report the defect early, preventing spoilage of big yardages.

THE SUCCESSFUL weaving of silk (or synthetic) repps is dependent on special attention to a number of details in the mill. Among these are selection of prime grades of silk, thread finishing of filling to smooth down the filaments and add luster, and frequent checking of shuttles to minimize cockled filling. Despite strict observance of these precautions, the nature of the repp construction is such that a high percentage of imperfect cloth usually gets through.

Repps are generally made on low-end, 20/22/2 thread, pure-dyed organzine warps, and are filled with high pickages of 20/22/6 thread, pure-dyed tram. Pickages range from 136 to 160, contributing many more chances for something to go wrong than in conventional lower ranges. Further, repp weaves usually call for a filling float of six to eight, exposing a good deal of filling on each pick and making loopiness a problem if shuttle tensions are not correct.

To boost quality standards, Loma Weaving Co., Wrightsville, Pa., has devised an inspection system in which its repps are inspected and graded twice and mended once. This method has kept seconds down to less than 2%.

First Inspection. Goods coming in from the weave room are inspected as soon after arrival as

INSPECTION REPORT

CUSTOMER .....

Red Weaver ..... Warp Color .....

Grey Weaver ..... Pc. No. .....

Order No. ..... Quality .....

Set No. ..... Loom No. .....

Comb. No. ..... Date .....

RED WEAVER		GREY WEAVER
	Miss and Broken Picks	
	Floats	
	Ends Out	
	Dirt	
	Fuzzy Filling	
	Smash	
	Wrong Draw	
	Looping Filling	
	Cockles	
	Creases	
	Slugs	
	Rope Shires	
	Filling Cracks	
	Card Marks	

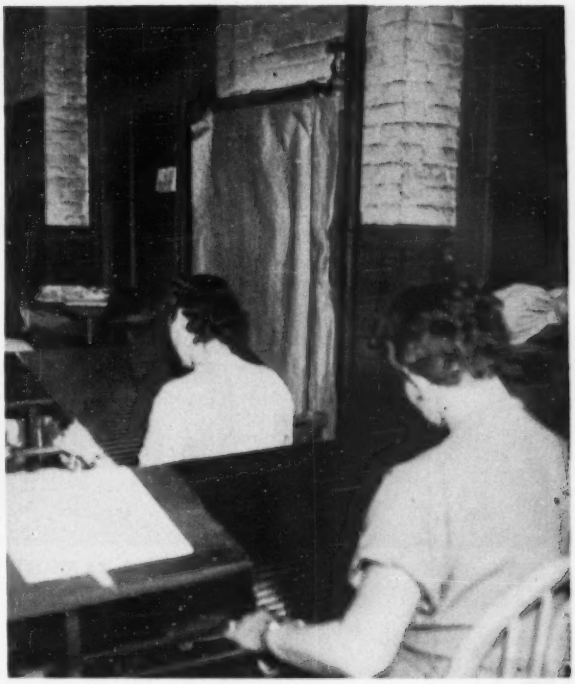
Picked and graded by ..... Good Fair Poor

Weaver called.....Yes.....No Pc. should be remade Yes No

Yards Yardage allowed for damage yds.

Final Grading by ..... Good Fair Poor

REMARKS:



MENDERS REPAIR DEFECTS in silk and synthetic repps with a burling iron. Removal of loopiness, broken picks, slugs, tails, and fuzziness often means an OK piece instead of a reject.

INSPECTION REPORT. Goods are identified and graded on this report. Red and Grey Weaver columns signify first and second shift.

possible. By doing this, the weaver or fixer can be called in on any persistent defect. At the same time, defects can be tabulated so that the menders will watch for them. In cases of rejects, instructions can be passed on to the office so that the piece can be remade without undue delivery delays.

The accompanying inspection report is used by Loma to tabulate defects according to weaver and type of defect. Inspecting frames consist of a board set at a convenient angle high enough to allow inspection at the standing position. The cloth is pulled down over the frame by a power driven tube.

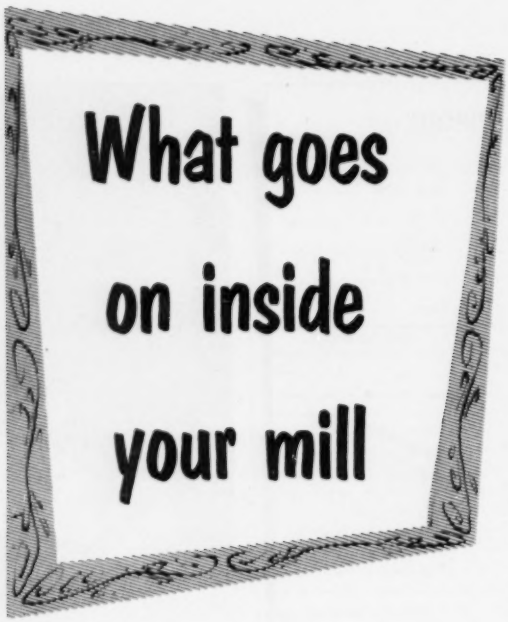
Mending. This operation, often called picking, is usually difficult and often impossible to perform properly in filament mills. The reason for this lies in the very fine nature of the yarn. Repps, however, contain enough filling to allow removal of a pick without leaving unsightly marks that are worse than the original defect. Loma found it was well worth while to spend some time and money to provide a well trained mending department.

The burling iron is the principle tool of the mender. Since silk repps usually come off the loom about 25″, the relatively short pick can be manipulated easier than in many wider fabrics. The clipper end of the burling iron can be used to remove single loops, shuttle change loops, small slugs and specks, and warp and filling tails in the goods.

The needle end of the iron is used to pull out a tail that has been woven in the goods, to remove or tease out slugs, dirt lumps, and broken picks. Loopiness that persists for the full length of the pick is removed by repeated insertion of the needle and pulling up at close intervals across the full width of the goods.

Final Inspection. After as many defects as possible have been removed, and report of defects made to weaving department, the goods are ready for the final inspection and grading. Goods are examined for remaining defects classed as: miss and broken picks, floats, ends out, dirt, fuzzy filling, smash, wrong draw, looping filling, cockles, creases, slugs, rope shires, and filling cracks. The repps are given a final grading as either good, fair, or poor; and are wrapped and tied on the inspecting frame for shipment to customers.

For a quick picture of



try this idea —

Summary Graphs

By
Ralph H. Coon
and
Duncan M. Veal, Jr.
Quality Control Division
Fulton Bag & Cotton Mills

EXCLUSIVE

ONE PROBLEM which constantly plagues the textile mill manager is the determination of just how well the various departments of his organization are performing It is obviously impossible for the busy executive to acquire an intimate knowledge of the functioning of each department through tours of inspection and observation, because of the many and complex problems that require him to spend more time at his desk. Consequently, he must depend upon the information contained in reports which reach his desk for the comprehensive knowledge of mill performance which is necessary for effective management.

It is true that the desks of most mill executives groan beneath the weight of reports of every description, each of them consisting, usually, of long columns of numerals. Somewhere in those thickets of numbers lies the information that the executive requires, but before isolating it he frequently has a considerable job of statistical analysis upon his hands. When he does come up with an answer, as often as not the question of how well current performance compares with that of the past or of tendencies in mill performance remains unanswered.

One solution to this problem lies in the use of Summary Graphs. As the name suggests, this method of reporting employs a graphical presentation of data accumulated over a convenient period of time and plotted in relation to a standard value. Information presented in this manner can be understood at a glance.

Summary graphs can be plotted for any process or operation within the mill for which data are available and for which a standard value has been established. As has been suggested previously, most mills have ample data at hand for the preparation of these graphs—only the manner of presentation need be changed.

Fulton Bag & Cotton Mills, assisted by Werner Textile Consultants, developed and now maintain summary graphs for the following values which, taken as a whole, accurately reflect mill performance:

(1) End breaks per 1000 spindle hours

(2) Per cent spooler reties and spooler strips

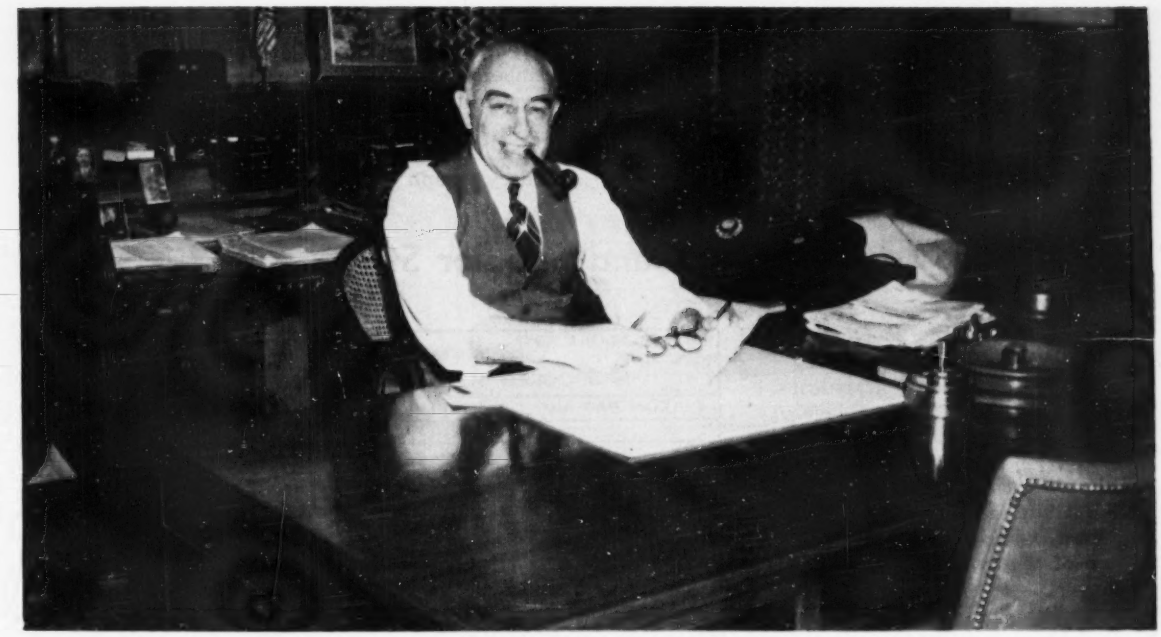
(3) Warper end breaks per million linear yards

(4) Stops per loom per hour

(5) Total mill wastes

(6) Comparison of waste reported and waste baled.

(7) Weaving efficiency



SUMMARY GRAPHS SHOW MILL OPERATING CONDITIONS IN SIMPLIFIED FORM. Here Fulton Bag & Cotton Mills' board chairman Norman Elsas gets the story quickly from summary graphs which compare graphically the actual mill performance with established standards.

(8) Cloth quality
(9) Cloth weight

Following is a brief description and illustration of each of the summary graphs listed here. The values shown in the illustrations are theoretical values except where stated to be otherwise.

1. End Breaks per 1000 Spindle Hours

The purpose of the end breakage summary graph is to compare graphically the ratio of the actual number of end breaks per 1000 spindle hours to standard for roving and for warp and filling spinning.

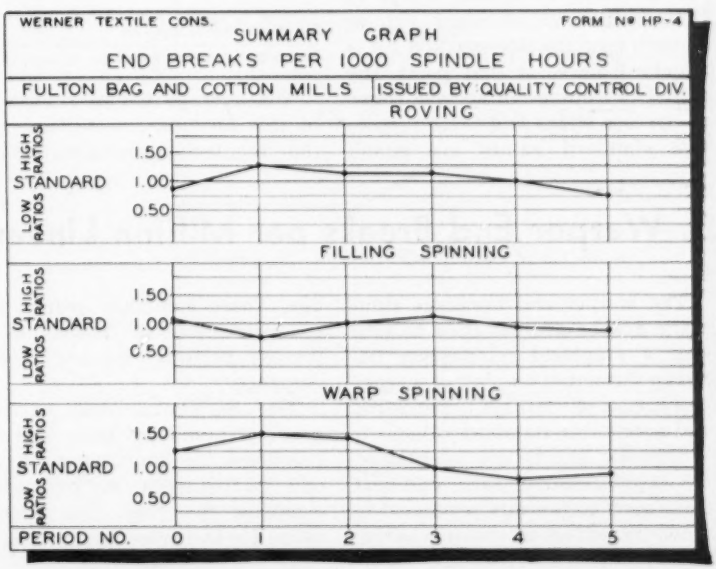
The horizontal axis of each graph is numbered from 0 to 5, representing the four ten-week and one twelve-week periods making up the year. The average value for the preceding year is plotted on the zero line.

The vertical axis of each graph is numbered from 0 to 2.0, representing ratios of actual end breakage per 1000 spindle hours to a standard value. In each case the line marked 1.0 is standard since at this point actual end breakage and standard end breakage are equal. It can be readily seen that if the ratio exceeds 1.0, end breakage is above standard and some corrective action should be taken; while a ratio less than 1.0 indicates an end breakage rate that is below standard and thus satisfactory.

To arrive at the ratios to be plotted the following calculation is necessary:

$$\text{Ratio} = \frac{\text{Average End Breaks per 1000 Spindle Hours for the period in question}}{\text{Standard End Breaks per 1000 Spindle Hours}}$$

The source of the data involved



in this calculation is, of course, regularly scheduled end breakage tests performed during the period in question.

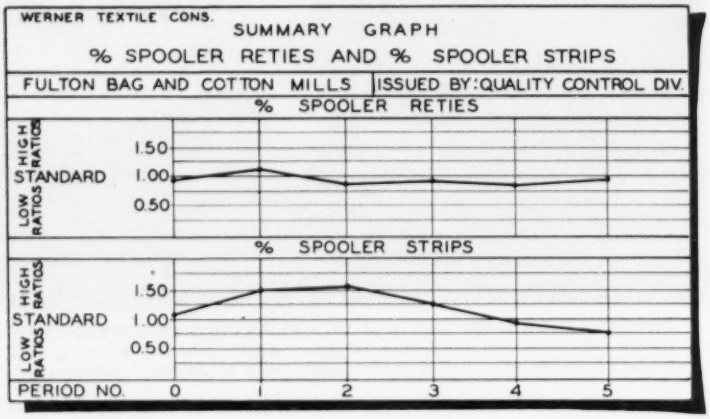
At Fulton Bag & Cotton Mills one roving and two spinning end breakage tests are made each week. The results of these individual tests are reported immediately to those members of cotton mill supervision concerned so that unusual conditions may be investigated prior to the later issuance of the summary graph.

Thus it is seen that *summary graphs are not intended as a replacement for all reports of the conventional type, but are instead an extremely valuable complement to them.*

2. Per Cent Spooler Reties and Spooler Strips

The purpose of the spooler reties and spooler strips summary graph is to provide a graphical comparison between actual spooler performance and acceptable standard values.

The classification "spooler reties" includes end breaks resulting from various causes, such as failure of the knotter to function properly, tailings, etc. The term "spooler strips" refers to those warp bobbins upon which a quantity of yarn too small to justify spooling remains after ejection from the spooler receptacle. Considered together, these two values give an accurate evaluation of spooler performance.



The horizontal axis of each graph is numbered from 0 to 5, representing the four ten-week and one twelve-week periods making up the year. The average value for the preceding year is plotted on the zero line.

The vertical axis of each graph is numbered from 0 to 2.0, representing ratios of actual percentages of spooler reties or spooler strips to their respective standard values. In each case the line marked 1.0 is standard since, at that point, the actual percentage of spooler reties or spooler strips and their respective standard values are equal. Hence, a ratio exceeding 1.0 indicates sub-standard spooler performance, and conversely, a ratio less than 1.0 results from spooler performance that is superior to the established standard.

To compute the ratios to be plotted, the following calculation is necessary:

$$\text{Ratio} = \frac{\text{Average \% Spooler Reties (or \% Spooler Strips) for the period in question}}{\text{Standard \% Spooler Reties (or \% Spooler Strips)}}$$

The average values referred to in this formula are derived from the regularly scheduled spooler tests performed during the period under consideration.

At Fulton Bag & Cotton Mills each spooler is checked once each week. The results of these weekly tests are forwarded immediately to supervision so that action may be taken to correct unsatisfactory performance revealed by them. Here again it is shown that the use of summary graphs does not eliminate the need for many of the more conventional types of reporting. Summary graphs should be considered, instead, a source of vital information normally omitted or obscured in the conventional report.

3. Warper End Breaks per Million Linear Yards

The warper end breakage summary graphs are designed to present a graphical comparison between the actual number of warper end breaks per million linear yards and acceptable standard values.

Separate graphs are maintained for representative yarn numbers from each cotton mix processed to show the effect of cotton characteristics upon warper end breakage. These summary graphs provide a valuable indication of warper performance and rate of stoppage.

The horizontal axis of each graph is numbered from 0 to 5 to represent the four ten-week and one twelve-week periods which comprise the year. The average value for the preceding year is recorded on the zero line.

The vertical axis of each graph is numbered from 0 to 2.0. These scale divisions refer to values of the ratio of actual warper end breaks per million linear yards to the standard value. It can be seen that a value of 1.0 is standard since this ratio results when actual warper end breaks per million linear yards and the standard value are equal. Also, it is readily

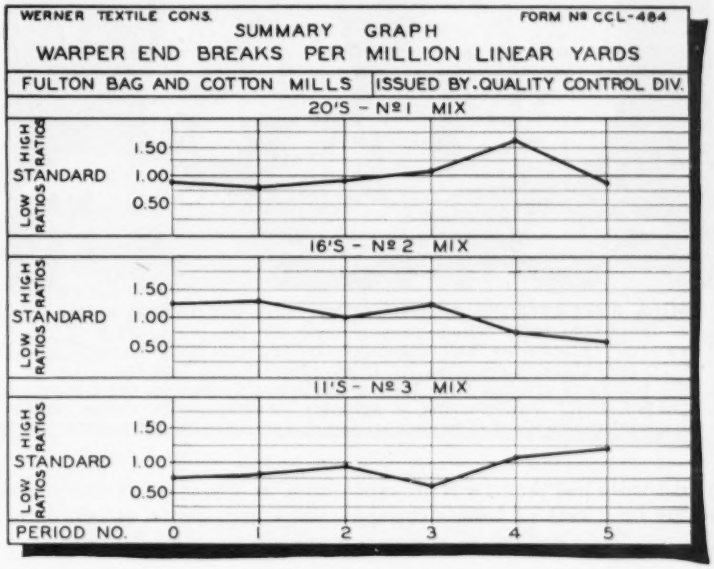
"Summary graphs compare graphically the actual operations in the mill with established standards."

seen that ratios greater than 1.0 reflect a rate of warper end breakage that is in excess of standard and hence unsatisfactory. A ratio smaller than 1.0 is the result when the rate of warper end breakage is lower than the standard value and thus highly desirable.

To compute the ratios, the following formula is used:

$$\text{Ratio} = \frac{\text{Actual Number of Warper End Breaks per Million Linear Yards}}{\text{Standard Number of Warper End Breaks per Million Linear Yards}}$$

The reports prepared by the warper operatives, showing warp yarn number, number of ends, cotton mix, yardage on the beam, and total end breaks, are used to compile the data required for this calculation. The daily accumulation of the reports is received by the Quality Control Division after having passed over the desks of those members of cotton mill supervision concerned.

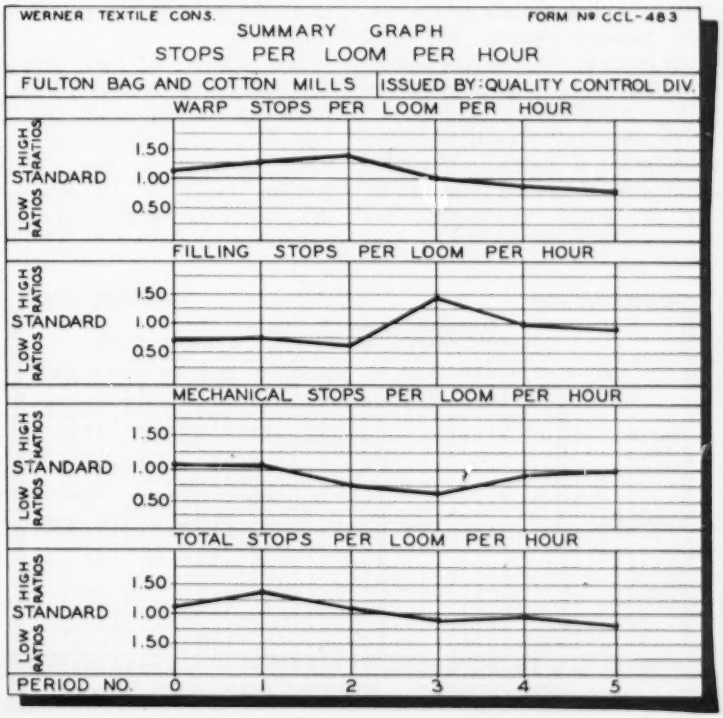


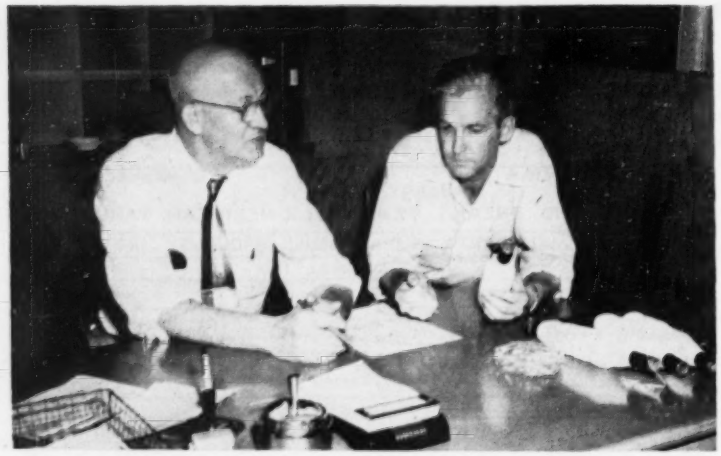
4. Stops per Loom per Hour

The loom stop summary graphs are prepared to show graphically the ratio of actual loom stops per hour to a standard value as an aid in the evaluation of weave room performance. Warp, filling, mechanical, and total stops per loom per hour are plotted separately, since significant increases in one of these categories might easily be concealed in a consideration of total stops alone.

The horizontal axis of each graph is numbered from 0 to 5. Each of these scale divisions represents one of the four ten-week and one twelve-week periods into which the year is divided. The average values for the preceding year are, in each case, plotted on the zero line.

The vertical axis of each graph is numbered from 0 to 2.0. These numbers represent values of the ratio of the actual number of stops per loom per hour to the standard value. A value of 1.0 is considered standard since this ratio is possible only when the actual number of stops per loom per hour are equal. It follows that a ratio greater than 1.0 indicates a rate of loom stoppage that is excessive and unsatisfactory; also,





MILL SUPERVISORS ARE IMMEDIATELY INFORMED of results of individual tests, which provide data for the preparation of the summary graphs, so that action may be taken to correct unsatisfactory performance revealed by them prior to the later issuance of the summary graphs. Here Fulton Bag's quality control chief Ralph Zachry (left) is discussing a spinning problem with cotton mill superintendent C. C. Chavous.

that a ratio less than 1.0 is brought about by a rate of loom stoppage that is lower than the standard value and, hence, satisfactory.

To derive the ratios to be plotted, the following formula is employed:

$$\text{Ratio} = \frac{\text{Average Number of Stops per Loom per Hour (Warp, Filling, Mechanical or Total)}}{\text{Standard Number of Stops per Loom per Hour (Warp, Filling, Mechanical or Total)}}$$

Regular weekly loom stoppage tests performed during the period in question provide the data required for this calculation. The results of the individual tests are reported immediately to interested members of cotton mill supervision. Once again it is seen that summary graphs and the reports of the individual tests which provide the data for their preparation are considered together. Neither eliminates the necessity for the other; but, instead, each is complementary to the other.

5. Total Mill Wastes

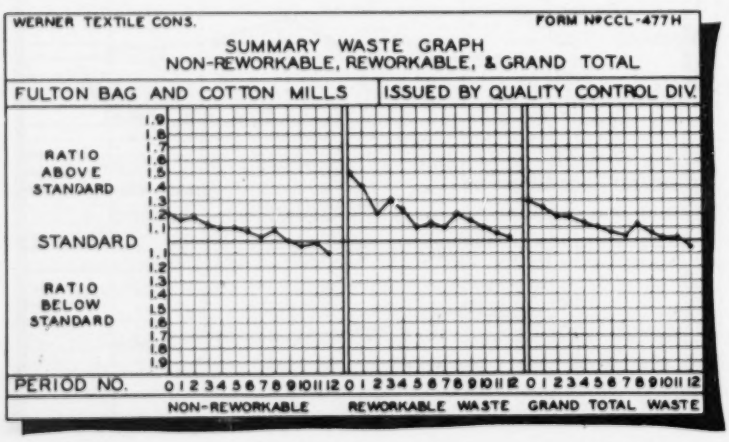
The purpose of the summary waste graphs is to present graphically, for comparison purposes, the ratio of actual pounds of reworkable, non-reworkable, and total waste made to the standard pounds expected of each as a gauge on mill performance.

The abscissa of each summary waste graph is divided into twelve equal parts numbered from 0 to 12. The 0 point represents the weighted, average ratio for the preceding fiscal year while the 1 to 12 points represent the consecutive cost periods for the current fiscal year.

The ordinate of each graph is graduated from 0 to ± 1.9. In all cases the 1.0 line is the standard line—i.e., actual pounds of waste made is equal to the standard pounds expected. Consequently, the greater the deviation above the standard line on the chart the poorer the waste control; and, conversely, the greater the deviation below the standard line on the chart the more nearly optimum the waste control and the greater the waste savings.

The ratios are calculated as follows:

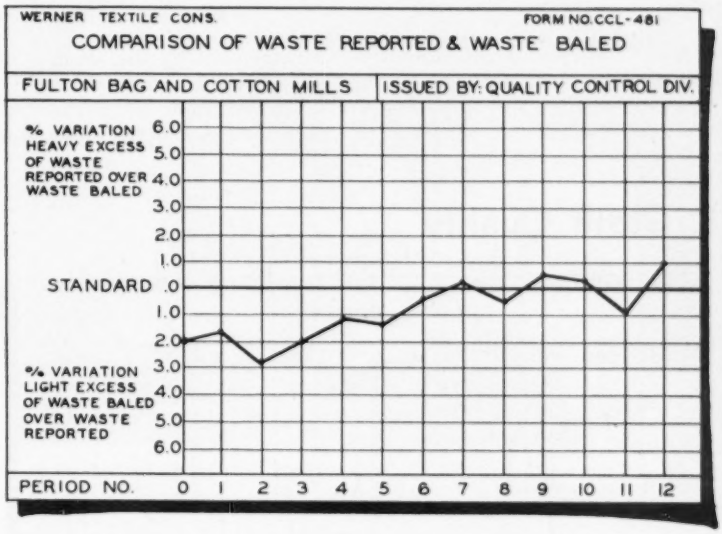
$$\text{Ratio} = \frac{\text{Total Actual Pounds of Waste Made for the period under observation}}{\text{Total Standard Pounds of Waste Expected for the period under observation}}$$


WERNER TEXTILE CONS.
FORM NºCCL-477H
SUMMARY WASTE GRAPH
NON-REWORKABLE, REWORKABLE, & GRAND TOTAL
FULTON BAG AND COTTON MILLS
ISSUED BY QUALITY CONTROL DIV.
RATIO ABOVE STANDARD
STANDARD
RATIO BELOW STANDARD
1.9 1.8 1.7 1.6 1.5 1.4 1.3 1.2 1.1
1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9
PERIOD NO.
0 1 2 3 4 5 6 7 8 9 10 11 12 0 1 2 3 4 5 6 7 8 9 10 11 12 0 1 2 3 4 5 6 7 8 9 10 11 12
NON-REWORKABLE
REWORKABLE WASTE
GRAND TOTAL WASTE

The total standard pounds of waste are accumulated from the weekly waste reports for the period under observation. These weekly reports are distributed to all members of management and supervision concerned with waste control.

The standard for each waste category is either calculated, generally accepted as standard, or determined from actual mill performance. It should be emphasized that the standards should be fully acceptable to mill supervision and reviewed periodically with mill supervision.

6. Comparison of Waste Reported and Waste Baled



The purpose of the waste reported vs. waste baled summary graph is to compare graphically the per cent variation between the pounds of waste actually baled and the pounds of waste reported as collected by the various mill departments as a check on the waste collecting and reporting efficiency of these departments.

The abscissa is divided into twelve equal parts numbered from 0 to 12. The weighted average percentage for the preceding fiscal year is plotted on the zero line, while the points numbered 1 through 12 represent the consecutive cost periods for the current fiscal year.

The ordinate is graduated from 0 to +7% and from 0 to —7%. The value of 0 is standard, for at that point the pounds of waste baled and the pounds of waste reported by the mill are equal. As indicated on the chart, a value plotted above the standard line results when the mill reports an amount of waste greater than that actually baled. Similarly, a value plotted below the standard line is caused by the mill's failure to report as great a quantity of waste as is baled. A tolerance should be given the mill due to the number of people involved in weighing and reporting wastes, but in most cases a tolerance of ± 3% should be sufficient.

In this case it is not considered necessary to submit reports at more frequent intervals than those at which the summary graph is distributed. Consequently, the summary graph is the only evaluation of this aspect of mill performance which reaches management.

7. Weaving Efficiency

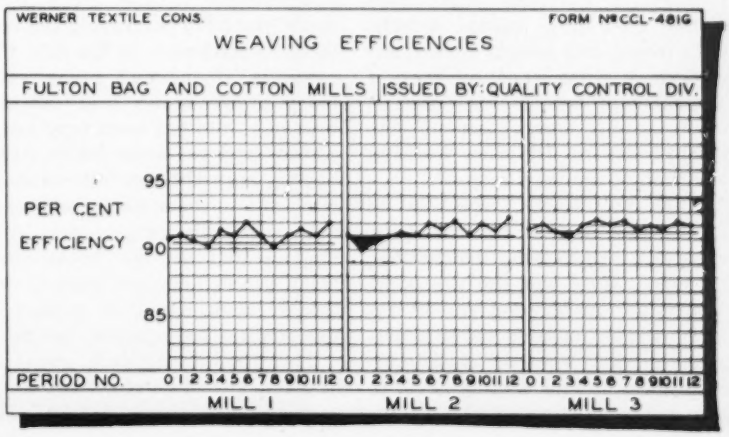
The purpose of the weaving efficiency summary graph is to compare graphically the per cent weaving efficiency by mills to enable mill management and supervision to gauge weave room performance from cost period to cost period.

The horizontal axis of each graph is divided into twelve equal parts numbered from 0 to 12. Upon the zero line the weighted average per cent weaving efficiency for the preceding fiscal year is plotted, while the points numbered 1 through 12 represent the twelve cost periods comprising the current fiscal year. The ordinate is graduated from 80% to 100%.

The standard line is drawn in red; and whenever the weave rooms fail to meet the standard, the area is shaded in red. The standard per cent efficiency for each weave room is based on actual long term mill operating conditions.

Actual per cent weaving efficiency is calculated by totaling the actual number of picks run during the period under observation and dividing this total by the possible number of picks for the same period. No allowances of any kind are made.

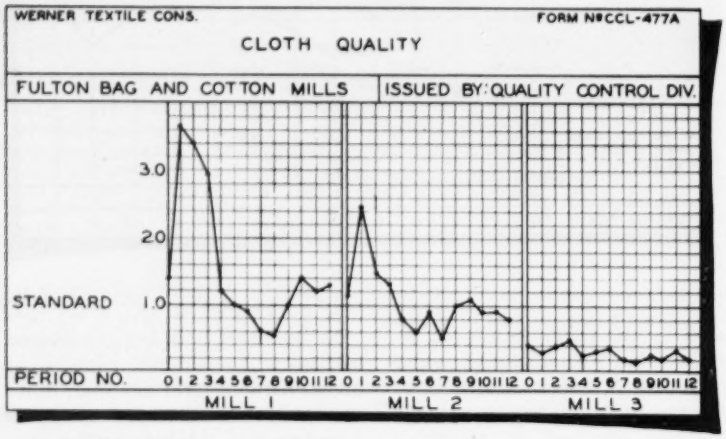
(Continued next page)


WERNER TEXTILE CONS.
FORM NO. CCL-481G
WEAVING EFFICIENCIES
FULTON BAG AND COTTON MILLS
ISSUED BY: QUALITY CONTROL DIV.
PER CENT EFFICIENCY
95
90
85
PERIOD NO. 0 1 2 3 4 5 6 7 8 9 10 11 12 0 1 2 3 4 5 6 7 8 9 10 11 12 0 1 2 3 4 5 6 7 8 9 10 11 12
MILL 1
MILL 2
MILL 3

"Summary graphs are not intended as a replacement for all reports of the conventional type, but are an extremely valuable complement to them."

As in the case of the summary graph which shows the comparison of waste reported and waste baled, weaving efficiency is reported to management by the Quality Control Division only through the summary graph. More frequent reports are considered unnecessary.

8. Cloth Quality


WERNER TEXTILE CONS.
FORM N°CCL-477A
CLOTH QUALITY
FULTON BAG AND COTTON MILLS
ISSUED BY: QUALITY CONTROL DIV.
3.0
2.0
STANDARD 1.0
PERIOD NO. 0 1 2 3 4 5 6 7 8 9 10 11 12 0 1 2 3 4 5 6 7 8 9 10 11 12 0 1 2 3 4 5 6 7 8 9 10 11 12
MILL 1
MILL 2
MILL 3

As has been stated previously, the purpose of all the summary graphs is to compare graphically the actual operations of the mill against standards set up by the Quality Control Division and agreed to by management and mill supervision. The cloth quality summary graph is an exception in that here *the customer sets the standard.*

This statement should be clarified by explaining that since it is economically infeasible to strive for perfect, defect-free cloth, the prospective customer must then decide just how many defects, both major and minor, he will accept in a given yardage; then if management accepts his order, it is up to mill supervision and the Quality Control Division, working together, to deliver the goods.

Since the cloth inspectors at Fulton Bag & Cotton Mills work with standard grading instructions for every style and use the point system for major and minor defects, it is a simple matter to establish a quality level for each cloth classification. This quality level is kept below that specified by management and the customer, and all cloth exceeding this quality level in defect points is placed in sub-standard categories. And while this does not mean that the cloth is a second in quality, it does mean that mill supervision and the Quality Control Division had better exert themselves and determine the cause or causes leading to the sub-standard cloth and get them corrected.

Another interesting feature of the cloth quality summary graph is that it is a good indication of the effectiveness of the other summary graphs in portraying the true running conditions of the mill. For example, if the end break summary graph shows that the end breakage rate has been very satisfactory and yet some fabric styles have a high ratio of sub-standard cloth due to slubs, gouts, and other defects of this nature, then it is obvious that the end break summary graph does not portray the actual conditions that existed in the carding and spinning rooms.

The abscissa of each graph is divided into twelve equal parts numbered from 0 to 12. The weighted average ratio of actual yards of sub-standard cloth to the number of yards allowed by the standard quality level for the previous fiscal year is plotted on the zero line. The lines numbered 1 through 12 are provided for the successive cost periods making up the current fiscal year.

The ordinate is marked off from 0 to 4.0. These numbers represent values of the ratio of the actual number of yards of sub-standard cloth to the standard value. A value of 1.0 is standard since the ratio indicates that the actual yardage of sub-standard cloth and the standard yardage allowed at the prevailing quality level are equal. A ratio greater than 1.0 is obtained when the production of sub-standard cloth exceeds the yardage allowed by the standard quality level, while a ratio less than 1.0 is obtained by performance superior to the established standard.

In order to calculate the ratio of actual yards of sub-standard cloth to the yards allowed by the standard quality level, it is necessary to compute the theoretical yardage value for each cost period and divide this figure into the actual yardage of sub-standard cloth reported by the cloth room. Management can tell by a glance at this ratio how effective mill supervision and the Quality Control Division are in their efforts to produce quality cloth for the company's customers.

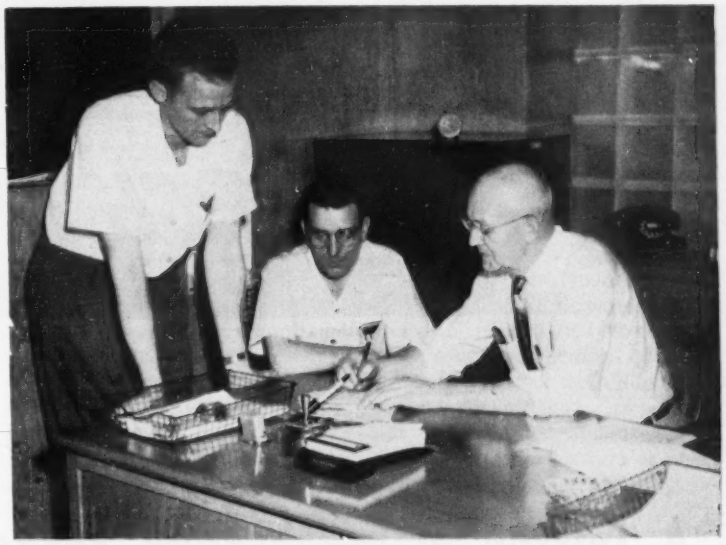
In addition to this cloth quality summary graph, management receives a weekly numerical tabulation of cloth quality by style.

The Quality Control Division at Fulton Bag & Cotton Mills takes a great deal of pride in believing that it played a part in the reduction of sub-standard cloth and the consequent improvement of the cloth reaching the customers. The fact that this has been done can be readily seen from the cloth quality summary graph reproduced here which is an actual case history of cloth quality at Fulton Bag & Cotton Mills during 1953.

9. Cloth Weight

Everyone, customer and mill alike, is keenly interested in the yards per pound of the cloth produced or bought. The cloth weight summary graph portrays graphically the per cent variation of actual yards per pound from the standard yards per pound. Once again the customer supplies the standard and the tolerance, and it is up to mill supervision with the aid of the Quality Control Division to supply the customer with cloth weight he desires. If the customer is buying the cloth on a yardage basis, it can be readily seen that the mill can give away a considerable sum of money over a year's time by supplying him with heavier cloth than is necessary; while if the cloth is too light for the customer's purpose, it could very easily lead to a cancellation of a contract.

It is for these two reasons that an accurate record is kept of the yards and weights of all cloth leaving the cloth room by styles, and the actual yards per pound are calculated weekly for all the styles. These actual figures are compared with standard yards per pound for each style and reported to mill supervision. Standard pounds are also calculated by style weekly.



HAVE OUR EFFORTS PAID OFF? To answer this question, Mr. Zachry and two of his assistants, Duncan Veal (standing) and Ralph Coon, authors of this article, examine the cloth quality summary graph which shows at a glance how effective mill supervision and their division have been in their efforts to produce quality cloth for the company's customers. This graph is also a barometer of the effectiveness of the other summary graphs in portraying the true running conditions of the mill.

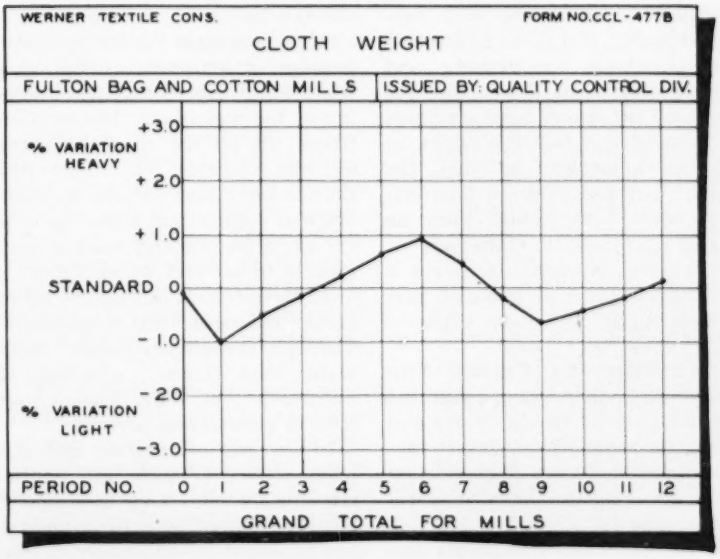
The cloth weight summary graph submitted to management is made up from the weekly reports accumulated during a cost period. The actual weighted yards per pound for each cost period is obtained by accumulating the total yards and the total pounds produced during the cost period. The standard weighted yards per pound is obtained by accumulating the yards and the total standard pounds during the cost period. The calculation for the per cent variation of actual yards per pound from standard is as follows:

$$\frac{\text{Actual Yards per Pound—Standard Yards per Pound}}{\text{Standard Yards per Pound}} \times 100$$

The abscissa of the graph is marked off from 0 to 12, thus providing a scale division for each of the cost periods comprising the fiscal year. The average weighted value for the preceding fiscal year is plotted on the zero line.

The ordinate is numbered from 0 to ± 3%. Obviously zero is the standard since this value results only when actual cloth weight and theoretical cloth weight are equal.

As illustrated in the graph, values found above the standard line indicate that the cloth produced during the cost period in question was unnecessarily heavy while values below the standard line serve as a warning that cloth weight was lighter than desired.



A better way—through research—to keep dry

By K. L. Baringer, H. A. Schuyten, and C. F. Goldthwait*
Southern Regional Research Laboratory[1]
New Orleans, La.

EXCLUSIVE

The fourteenth article of a series dealing with research work and the practical application of research findings in the mill.

INTEREST has increased during the past 10 years in the improvement of fabrics in military, agricultural, and apparel uses in which they are exposed to rainfall or water from other sources.

Raw cotton repels water by reason of a very thin coating of wax on the surface of each fiber. Cotton cloth that still contains this wax has a certain amount of water repellency. A heavy and closely woven fabric, like cotton duck, as it comes from the loom usually is sufficiently water-repellent to be used without treatment in tents, awnings, truck and boat coverings, and similar uses. When, during finishing or from other causes, the natural waxes are removed, cotton wets readily, unless given an appropriate treatment.

Cotton fabrics can be waterproofed — treated so that water will not pass through even under pressure — by coating with rubber or resins. But these treatments are unsuitable for clothing and certain other uses. They close the thousands of spaces between fibers and make the fabric airtight as well as watertight, so that the wearer becomes more uncomfortable from perspiration than he would have become from rain.

Rainwear obviously requires a treatment that will leave it permeable to air and water vapor.

Air - Permeable Fabrics. Two classes of cotton fabrics resist the penetration of rain and water and meet the requirement of air permeability. These are distinguished as water-repellent and water-resistant fabrics.

Water-repellent treatments imitate and, in a sense, restore the fiber's original repellency, through application of a chemical which repels water and causes it to collect in drops on the surface so that it can roll off without penetrating the fiber. These treatments do not affect the spaces between fibers in the fabrics.

Water-resistant fabrics resist the passage of water by virtue of a self-sealing effect through swelling of the wet fibers. The swollen fibers fill up the space or pores of the fabrics. In the dry fabric, the fibers return to their original volume and leave the fabric again porous and readily permeable to air and water vapor.

Water-resistant fabrics are often given water-repellent treatments. Through repellency they shed water; and through swelling, if eventually wet, they close to stop further penetration of water.

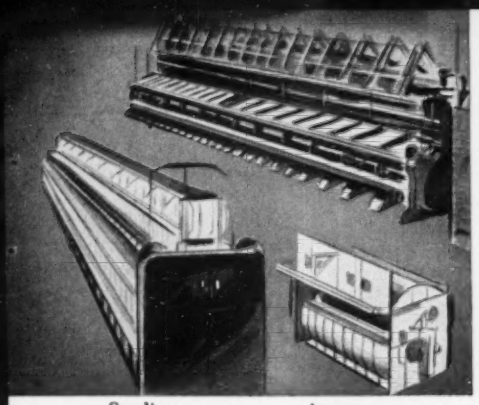
In the water-repellent and the water-resistant fields, the Southern Regional Research Laboratory has contributed both fundamental and practical developments. These

*Chemists of the Bureau of Agricultural and Industrial Chemistry have worked in two promising fields at the Southern Regional Research Laboratory to improve cotton's resistance to penetration by rain and water.

J. D. Reid, H. A. Schuyten, and others have done much needed groundwork on the theoretical side in the use of water-repellent chemicals to give durable protection with air permeability.

C. F. Goldthwait and coworkers have pioneered in research to develop water-resistant cotton fabrics[2] of the type which utilizes the capacity of wet cotton fibers to swell and close the pores of the fabric against the passage of water. When such fabrics dry after wetting, the pores reopen and the fabrics "breathe" freely again.

These developments are not considered complete, but the work has helped prepare the way for the production of more ideally water-repellent and water-resistant fabrics.



Studies Assays

A discussion which shows how research is directed towards the improvement of a single characteristic of cotton to increase its usefulness in a specific product.

under cotton

lines of work are discussed here because they show how research is directed towards the improvement of a single characteristic of cotton to increase its usefulness in a specific product.

Water - Repellent Treatments. The ideal water-repellent agent would be one that would last as long as the fabric. Some chemical treatments are known which impart so-called durable water repellency, but even these treatments can break down and leave the fibers again penetrable by water. For this reason chemists doing research to improve cotton are interested in extending the span of usefulness of water-repellent treatments.

Theories of Repellency. A vast amount of practical work has been done previously to establish the relative effectiveness of water-repellent compounds, but little information has been obtained on the theory of water-repellency to explain the chemical reactions by which different agents produce the effect.

H. A. Schuyten and others, in undertaking research on the theoretical aspects of water-repellent treatments for cotton at the Southern Laboratory after the war, surveyed the literature on strictly chemical methods of imparting water repellency. They published a review of 332 patents and articles reporting work on the subject done in the United States and England between 1930 and 1948[3]. These researchers made a list of the several thousand chemical compounds that had been used in the processes reported[4], indexing them according to the chemical classification of the water-repellent agent.

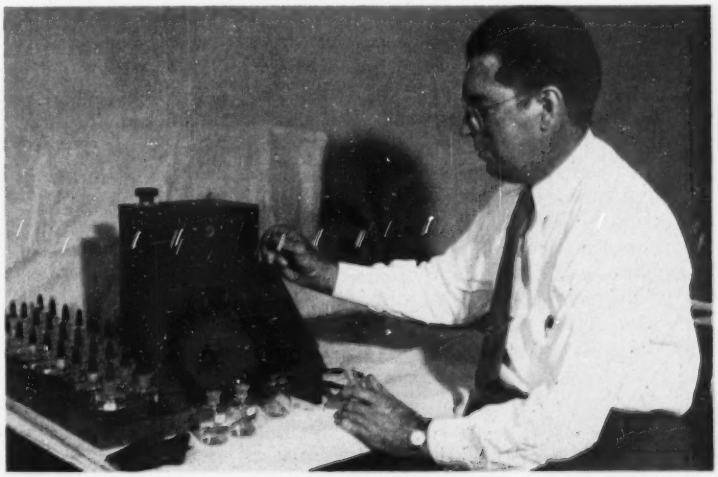
Among the more notable types of water-repellents used to obtain durable treatments are the alkoxy quaternary salts and the alkylamido quaternary salts. The more successful commercial durable processes are based on the use of these salts. Some of the workers hold that the permanence is due to the formation of long-chain ethers of cellulose, which are stable and will remain during laundering; others claim that the finish is due to the formation of insoluble, hard-to-remove polymeric coatings, through deposition of small molecules of the water-repellent material and their polymerization to molecules too large to be removed when the cloth is cleaned.

Experiments at the Southern Laboratory indicated that each theory is partly correct[5]. With a total add-on of about 3%, about half of the alkylamido quaternary salts used reacted with the cellulose (1 ether group for each 150 glucose units); the other half formed an insoluble, wax-like substance, distearamidomethane, on the surface of the fiber. The researchers theorized that the deposition of distearamidomethane contributes to the initial water-repellency and the formation of the cellulose ether imparts durability.

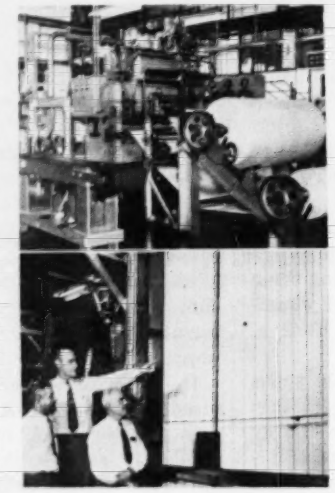
H. A. Schuyten and others devised an unusual method of measuring water-repellency, as independently as possible of the type of cloth used, and sensitive enough to determine slight differences in the effectiveness of various water-repellent agents[6]. Most test methods are aimed at a practical evaluation of the cloth and finish together and are based on a determination of how the fabric would act in a driving rainstorm.

The new, critical method is based on the fact that the relative surface tension of a solid surface can be estimated by determining the surface tension of a liquid required to wet the surface. The solid surface is the fabric, which if it is water-repellent does not become wet with pure water, but becomes wet with water of reduced surface tension. By use of a series of solutions of known sur-

WATER REPELLENCY of cotton fabric samples is determined by this apparatus and technique developed under direction of Dr. J. David Reid, Southern Regional Research Laboratory, Chemical Properties Section.



Wild Stretch in Nylon Tire Cord Licked



Top photo: Untreated fabric enters machine. **Bottom:** Fabric is stretched under tons of tension.

After five years of research, Goodyear Tire & Rubber Company has licked the wild stretch in nylon tire cord.

This was revealed recently by Dr. R. P. Dinsmore, vice-president in charge of research and development, who said Goodyear has developed an exclusive method of chemically treating the cord and then putting it through a triple tempering process.

Since the new process subjects the nylon fabric to high tension and high temperature for a precise period of time, it is called 3-T.

"The result," Dr. Dinsmore said, "is the lightest weight and coolest running tire cord ever developed. The tempering operation puts new muscles into our nylon tire and makes it stronger and longer wearing."

Rayon cord also is precision processed under the new formula to meet tougher service, he added.

Thousands of yards of this new synthetic fabric today are rolling out every hour from giant, million-dollar machines in production at Akron and Cartersville, Ga. And soon a third identical machine will be put into operation at Rockmart, Ga.

"When abused, nylon fights back," Dr. Dinsmore explained. "Like a thoroughbred horse, it doesn't know when it's licked. Our problem was to put a saddle and bridle on nylon so it could be controlled in production and retain its stamina and fight for great performance on the highway."

To win the nylon fight, Dr. Dinsmore's researchers had to

face tensions, the point (on the surface tension scale) where the fabric becomes wet is determined by employing an electrical indicator. The surface tension of the solution necessary to cause this wetting is taken as an index of the water-repellency of the fabric.

Swelling - Type, Self - Sealing Fabrics. *Unlined Fire Hose.* A new cotton product, which constitutes a unique contribution in this country's development of water-resistant cotton fabrics of the self - sealing - by - swelling type, was achieved when C. F. Goldthwait, in 1942, at the Southern Regional Research Laboratory, produced an unlined (rubberless) firehose from American cotton by introducing into the yarn a supplementary, water-insoluble swellable material — hydroxyethyl cellulose. In doing this he was utilizing the fundamental property of cotton fiber swelling[7]. At about the same time, F. T. Peirce in England had made an unlined hose from long-stapled, fine-fibered Egyptian cotton by use of mercerized yarns.

When the yarn is woven it carries into the fabric this additional material as a permanent part of the structure. Before wetting, the swellable derivative fills up some of the spaces between fibers and, when wet, helps close the pores of the fabric by swelling into some of the most critical remaining space, in the very center of the fabric.

This hose, which is suitable for standby fire protection at moderate water pressure, was intended as a replacement for unlined linen firehose, if there had been the threatened shortage of linen in World War II.

The work on firehose was followed by attempts to apply the self-sealing-by-swelling effect in the production of medium-weight fabrics.

Besides the need for studies to explore further the manufacturing variables that influence the closing capacities of cotton fabrics upon wetting, there was need for basic information on the whole subject of cotton fiber swelling.

Preliminary studies of the influence of varietal characteristics showed that cotton fibers of low maturity, when wet out and swollen, resisted the passage of water better than more mature fibers of the same variety. Similar differences also were observed later between the closing properties of mature fine-fibered, and mature coarse-fibered varieties. Since immature cottons are more difficult to process than mature fine-fibered cottons, it would be advantageous to obtain increased closing capacity through the use of mature fine-fibered cottons than through the use of immature fibers.

This observation was made by means of an "orifice" test[8]. Other studies with this test have shown that water leaked through bundles of thick-walled fibers 3 to 7 times as much as through equal weights of thin-walled fibers from any of the varieties investigated. The work indicated that differences in fiber fineness are significant in the production of water-resistant fabrics, probably due to differences in the capillary systems in the yarns and fabrics.

Microscopical Investigations[9]. To obtain basic information as an aid in further practical work, microscopical techniques were applied to study the amounts of swelling of cotton as compared to other fibers, the influence on swelling of varietal differences, and of fiber wall thickness, or degree of maturity.

In one study, photomicrographs were made of cross sections of more than 10,000 mature and immature fibers, before and after

invent new adhesives and develop new processing operations and then design a new machine to handle the job.

Punishing tests in the laboratory and on the road substantiate claims for the new nylon tire cord. Tires made with it have been rammed head-on against curbs at 55 miles per hour without a single cord breaking. One of the tires was run 100 mph for five minutes in a "torture chamber" and fast braked until the outside temperature was hot enough to fry an egg, yet the cord lived through the ordeal.

S. A. Steere, vice-president of Goodyear's textile mills, who developed the "Supertwist" for cotton tire fabric 32 years ago, calls this new 3-T process and machine "the finest mass producer of top quality textile I have ever seen."

Cramer Auditorium Dedicated at ITT

Facilities for holding scientific seminars, textile conferences, and meetings of member mill representatives are provided by the Stuart Warren Cramer Memorial Auditorium recently dedicated at the Institute of Textile Technology.

The Auditorium was built with funds provided by Callaway Institute, Inc., and Callaway Mills Co., LaGrange, Ga.

Pictured below at the bronze memorial plaque are A. B. Edge, Jr., Callaway Mills Co.; Mrs. S. W. Cramer, Sr.; Fuller E. Callaway, Jr., dedication speaker; R. W. Philip, Callaway Mills Co.; Roger Milliken, Deering, Milliken & Co. and chairman of board of trustees of the Institute.

immersion in water and redrying. The cross-sectional areas were measured on photomicrographs by use of a special device, and the mean differences in area between fibers in the original dry and the saturated and redried states were calculated.

The results indicated that while thinner-walled fibers do not swell appreciably more than thicker-walled fibers, there may be twice as many thin-walled fibers in a given area of cloth, and consequently there are that many more interspaces, and the spaces are finer and they close more readily. The approximately 30 per cent swelling of cotton is more effective in closing off the passage of water through yarns made of thin-walled fibers than through those made of thick-walled fibers.

Included in research on these fundamental aspects of fiber swelling was a survey of the literature on the moisture relations in cellulose from 1928 to 1948[10].

Production Variables. Several series of fabrics have been produced to investigate further the influence of the degree of maturity of cotton; of yarn and fabric construction; and finishing treatments. In some of the experimental fabrics, use was made of a special loom device developed at this Laboratory to introduce into the oxford-weave up to 38 per cent more filling picks. For instance, for one oxford-weave, where 52 picks were found to be the maximum that could be inserted by conventional means, with the loom attachment up to 72 picks were introduced, enough to make the fabric[11] as a whole more than 12 per cent tighter.

Explanations of the numerous, interrelated principles involved in these most recent studies will be offered in reports of the work when these have been prepared for publication by C. F. Goldthwait and others.

When perfected, such fabrics could be used in tentage, to keep water out; in water bags, to keep water in; and would have other potentialities besides for use in rainwear.

"Ideal" Fabric? It is apparent that, although much remains to be done before ideal water-repellent or ideal water-resistant cotton fabrics can become a reality, research has increased the chances for their development.

REFERENCES

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2. See article entitled "How to Keep Dry Under Cotton," by J. D. Reid and C. F. Goldthwait, Yearbook of Agriculture, 1950-51, "Crops in Peace and War" (pages 411-418). Reprints of publications cited may be obtained, as long as supply lasts, by writing the Southern Regional Research Laboratory, 2100 Robert E. Lee Boulevard, New Orleans, Louisiana.

3. See "Imparting Water-Repellency to Textiles by Chemical Methods: A Review of the Literature," by H. A. Schuyten, J. D. Reid, J. W. Weaver, and J. G. Frick, Jr. Textile Res. Jour. 18 (7): 396-415; (8): 490-503. 1948.

4. See "Imparting Water-Repellency to Textiles By Chemical Methods: An Index of Compounds Used," by H. A. Schuyten, J. D. Reid, J. W. Weaver, and J. G. Frick, Jr. AIC-179. Processed. 1948.

5. See "Formation of Cellulose Ethers in Water-Repellent Treatment of Cotton with Stearamidomethyl-pyridinium Chloride," by H. A. Schuyten, J. W. Weaver, J. G. Frick, Jr., and J. David Reid. Textile Res. Jour. 22 (6), 424-432. 1952.

6. See "An Index of the Water-Repellency of Textiles from the Surface Tension of Aqueous Solutions," by H. A. Schuyten, J. W. Weaver, and J. David Reid. Am. Dyestuff Reptr. 38 (9), 364-368. 1949.

7. U. S. Patent No. 2,352,707. C. F. Goldthwait, July 4, 1944.

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10. See "Cellulose-water Relations: A Selected Bibliography with Special Reference to Swelling of Cotton and to its Utilization in Water-Resistant Fabrics," by Mary L. Rollins, Hazel H. Fort, and Dorothy B. Skau. USDA Library List No. 44, March 1949.

11. See "Loom Attachment for Dense Fabrics," "Textile Industries" 115 (6) 141. 1951.

Dyeing Wool and

By Hans Luttringhaus
General Dyestuff Corp.

Abstract

MODERN blends present so many problems that our knowledge is continually increasing as research is applied to and solves these problems. Methods of handling the newer fibers are in such a state of flux that any remarks made today may be obsolete in a few months as new and better procedures are uncovered. The suggestions which follow should be read with that situation in mind.

Nylon-Wool. It is Dr. Luttringhaus' opinion that no single group of dyes can be recommended for all depths of shade. In dyeing weaker shades, most of the dye is absorbed by the nylon before the temperature reaches a point where the wool is dyed. In heavy shades, the opposite effect occurs.

The first effect can be overcome by using a retarding agent, such as Palatine Fast Salt N. Conc. Powder, Prestabit Oil V, or Nylon Resist GDC. The new premetallized neutral-dyeing colors solve the second problem.

Dacron-Wool. Dr. Luttringhaus reminded his listeners that his remarks on dyeing blends of wool with other fibers refer to yarns or piece goods. However, in the case of Dacron, blends of tops (85/15 wool/Dacron) were successfully dyed.

The tops were wet out at 120 F; 20 per cent monochlorobenzene on the weight of the fiber was added, and after 10 minutes selected dispersed acetate dyestuffs were added. The temperature of the bath was raised to 180-190 F and was kept there for 30 minutes. The temperature was then raised to 205-210 F for 15-20 minutes, during which time the monochlorobenzene was removed by steam distillation. The bath was dropped, and the tops rinsed before the wool was topped with monochrome dyestuffs. Wool is stained very little in the presence of monochlorobenzene, but can be cleared completely by topping with vat dyes of the Helindon type.

Chlorinated benzenes are poisonous to a certain extent, but in one well-ventilated dyehouse many thousands of pounds of Dacron were dyed without any untoward results. The material should stay under the liquor during the entire dyeing cycle; monochlorobenzene has a high affinity for Dacron, and dispersed dyes concentrate in this solvent.

Certain vat dyestuffs give fluorescent shades on Dacron when dyeing is done using monochlorobenzene. The brightest possible red, fast to sublimation, can be obtained on Dacron with Helindon Red BB. Chlorinated benzenes for the dyeing of Dacron are covered by USP 2,670,263.

Carriers for the dyeing of piece goods should have very limited volatility, according to Dr. Luttringhaus. He considers that the best method utilizes diammonium phosphate and Dowicide A (sodium o-phenylphenate). Diammonium phosphate forms a finely dispersed precipitation of the Dowicide, and minimizes staining of the wool with Celliton colors.

In this method the dyebath is prepared with 2½ lb of diammonium phosphate per 100 gallons, in which the Dacron-wool blend is run for 10 minutes. The bath is gradually brought to 130 F, during which period an equal amount of diammonium phosphate is added in several portions. The dyestuff is added at 130 F, and the temperature is then raised to the boil. Some mills prefer a temperature of 200 F, followed by boiling,

Finishing

By Harry Moore
Fair Lawn Finishing Co.

Abstract

MR. MOORE told those attending the Finishing Session that the new fibers have created new problems for the finisher, requiring new techniques. Quality and functional properties still must not be achieved at the expense of esthetic properties.

Among the finishing techniques reviewed were those applicable to nylon, Dacron, and the acrylic family.

Heat Setting of Nylon. Since nylon can assume and retain a set through rearrangement of its internal molecular structure, heat setting has been of great importance. Setting, being done in the raw, after scouring, or after finishing, must conform to certain conditions: control of time, and temperature, uniform exposure, freedom of goods from wrinkles, and avoidance of excessive exposure to heat.

Other nylon finishes developed include surface polymerization to produce crispness, non-slip and softening finishes.

Heat Setting of Dacron. On Da-

AATCC SYMPOSIUM*

Synthetic Blends

Dr. Luttringhaus added.

The difficulty of obtaining dark navy blues and dark browns of good fastness on Dacron-wool blends is well known. In a one-bath method, too much of the dispersed Cellitons are absorbed by the wool and inferior wet fastness properties result. Dr. Luttringhaus suggested a procedure whereby the Dacron dyeing is treated with a reducing agent (either Blankit or Rongalite is suitable), followed by a rinse and a chrome dyeing to cover the wool.

Orlon 42-Wool. A one-bath method is recommended, in which basic types are mixed with acid or chrome dyes. A compound such as Emulphor ON on Peregal TW must be added to prevent precipitation. Two per cent Peregal TW and monochrome mordant with chrome dyestuffs and Genacryl dyes gives good fastness on men's wear fabrics. It is essential that Peregal TW be added to the bath before the dyestuff.

Dynel-Wool. Dr. Luttringhaus recommended the following procedure for dyeing a 75/25 Dynel-wool blend:

The material is first scoured at 160 F with Calgon and a surfactant. Dyeing is carried out with 6 ounces of sodium sulfate and 1% Peregal TW. A mixture of dispersed dyestuffs and neutral-dyeing metallized types is used.

Dyeing is started at 100 F, at a pH of 7.5. The dispersed dyes are entered with Peregal TW, then the metallized dyes are added. The bath is brought to 210 and the dyeing is run for ½ hour. Then sodium sulfate is added and dyeing is continued at the boil for one hour.

After dyeing, the material is scoured at 160 F for 20 minutes with a surfactant, Calgon and soda ash at pH 7.2. A small amount of tannic acid should be added to the last rinse. Dyeing is carried out at 200 F before relustering, the conditions for which must be established at the dyehouse.

Silk-Wool. According to Dr. Luttringhaus, the use of wool-silk mixtures is increasing, and some difficulties have been met in producing solid shades. Past experience often does not lead to satisfaction.

Heaviest dyeings on a 60/40 mixture of wool and silk were obtained on the silk from a neutral bath in the presence of 30% sodium chloride on the weight of the fiber. In this manner it is even possible to dye silk heavier than wool with certain acid dyestuffs.

If sodium sulfate is used in place of sodium chloride, the silk is dyed distinctly weaker. As the amount of salt is decreased the depth of shade on the silk becomes less and the wool absorbs more dyestuff.

Newer Synthetics

cron, heat setting is more important than on nylon. Improperly set Dacron fabrics may shrink excessively in ironing. Mr. Moore pointed out a mill practice of a 350 F after treatment to guard against this danger.

Although certain complex cationic compounds have been developed as anti-static finishes for Dacron, no completely suitable treatment has yet been worked out.

The best insurance against pilling was said by Mr. Moore to be proper selection of ply and twist in yarns, plus tight weaves; and finishing by brushing, shearing and singeing.

Other Finishes. Such finishes as crease resistance and water resistance are easily applied to Acrilan-viscose blends. The problem of fibrillation, which is a splitting of fiber tips to give chafed appearance, has now been corrected in the raw material, Mr. Moore claimed.

The development of Type 42 Orlon for staple and Type 81 in filament Orlon was said to make the fiber dyeable and workable in finishing, with no unusual techniques required.

Mr. Moore concluded his remarks with mention of the Coronizing process for Fiberglas, which bonds an acrylonitrile type of latex finish to the goods, resulting in softness and wrinkle resistance.

"AATCC RESEARCH—Key to Quality," was the theme of a one-day symposium sponsored by the American Association of Textile Chemists and Colorists, and held at Hotel Statler, New York, on May 19.

Four of the papers presented in the morning technical session are abstracted here (pages 106-110), together with a summary of the panel discussions held in the afternoon.

The Economics of

By L. Leslie Walmsley
American Viscose Corp.

Abstract

MR. WALMSLEY first enumerated the problems which the fiber producer faces in the manufacture of spun dyed viscose. He listed these as selection of pigments to insure colorfastness, compatibility of the pigment with the spinning solution, matching of shades, and maintaining of continuity of shade. The major part of his paper was concerned with the pros and cons of spun dyed versus dyed yarn and fabric:

Spun Dyed Filament. The obvious advantage of spun dyed filament over spun dyed staple is that it is used as purchased, so that the contamination met in spinning spun dyed staple is not a factor.

Costwise, the premium for spun dyed filament is about 35 cents per pound over the price of undyed filament. Dyeing costs are 20 to 30 cents per pound for direct colors and 40 to 80 cents for vats, depending on the shade.

Spun dyed offers the advantages of fastness properties, lack of knots, and very close matches from lot to lot. The customer loses individual selection of color and there is a greater color inventory problem.

In Mr. Walmsley's opinion, the filament yarn dyeing industry will be only slightly affected as spun dyed yarn gets into greater production in the United States. There will probably be little or no effect where filament is used for such purposes as linings, taffetas, satins, crepes, ribbons and piece dyed braids, since in these instances fastness requirements are quite moderate and for the most part nothing could be gained by adding spun dyed fastness. The cost of finishing these fabrics is quite low, and the added cost of spun dyed viscose over grey yarn would be greater than the finishing charges.

Spun dyed yarns would still require finishing, and finishing prices are so highly competitive that the lack of a dyeing requirement would make little difference, since the colors are principally light shades dyed with direct dyes.

Mr. Walmsley considers that the chief deterrent to the general use of spun dyed filament in what are normally piece dyed fabrics is the inventory problem, together with the extra cost of warping each

Dyeing Cellulose—

By Walter H. Hindle
The Chemstrand Corp.

Abstract

RELATIVELY low percentages of synthetics in cellulose-synthetic blends do not present any great difficulties in dyeing, since differences in dyeing properties in the components of the blend are readily submerged into the overall picture. Therefore, Mr. Hindle confined his discussion primarily to the dyeing of the new fiber blends with cellulosics where the new fiber content is not less than 25 per cent.

Dacron-Rayon. Procedures for dyeing Dacron-rayon blends have been fairly well established, and usually involve dispersed acetate dyestuffs and a carrier for the Dacron, and direct dyes for the rayon.

Whether the method should be a one- or two-bath process is partly governed by the nature of the carrier used. For example, the chlorinated benzene type of carrier does not present the same problems as do the phenolic-type carriers. The chlorinated benzene carrier can be removed by steam distillation, while the phenolic type can not. The phenolics are more difficult to remove from the fiber at the conclusion of a single bath process; in fact, attempts to wash out this type of carrier can result in loss of union and cause problems in color matching, because a treatment sufficiently strong to remove the carrier will also remove the rayon dyestuff before it is fixed.

By the two-bath method, the Dacron is dyed with the prescribed carrier, the carrier is removed by washing, and then the rayon is dyed and the fabric brought to shade by conventional means. The two-bath method does not necessarily involve double dyeing time, and does provide a more effective control of the union.

Dacron can be dyed without a carrier by a high temperature method such as is accomplished on the recently developed Barotor

Spun-Dyed Viscose

color and the added cost of manufacturing up to finishing. This field is highly specialized and costs are extremely closely calculated.

Despite the considerations listed, it should be kept in mind that if public fancy dictates the use of spun dyed yarn, because of advertising or as a result of "glamorizing," the situation could change rapidly.

From these facts, Mr. Walmsley drew the conclusion that spun dyed viscose filament will not greatly affect the filament piece dyed industry; any gain will be in newer fabrics where fastness is of prime importance.

Spun Dyed Staple. The use of spun dyed staple presents an anomalous situation. In this country it is accepted as axiomatic that the nearer the market state the more economical it is to dye and finish. For this reason the great bulk of spun fabrics is piece dyed. Moreover, the extra cost of spinning colored fibers can run 30 to 50 per cent above that of uncolored fibers. This expense, together with higher costs for warping and weaving and the loss in value of colored waste are all saved when fabrics are piece dyed. In addition, colors can be selected as the market dictates.

With all these facts as a deterrent, in Britain, which has had the bulk of the experience and on whose background we must draw for evaluation, it is in the staple field that spun dyed viscose has made its greatest strides. For example, 25 per cent of all Courtauld's production in 1954 will be spun dyed staple.

There are of course conditions peculiar to the British textile industry which together with the desirable properties of spun dyed staple, have been instrumental in bringing about this situation. These conditions for the most part will not apply in this country. However, spun dyed staple has been well advertised in England, and that factor will probably have an even greater effect in advertising-conscious America.

According to Mr. Walmsley, almost all fabrics in the spun rayon field should be vat or naphthol dyed, whether in light or in dark shades, and where necessary should be completely washable under any conditions. If these specifications are not met, then the spun rayon dyeing industry by its own inadequacy will promote the acceptance of spun dyed rayon by the American public, he concluded.

Synthetic Blends

machine. Eventually it is expected that direct dyestuffs will be developed that will withstand the high temperatures required for the Dacron dyeing operation, but at present best results are obtained by first dyeing the Dacron component under pressure and then dyeing the rayon in a second bath at normal temperatures.

Orlon-Cellulosic Blends. There are three general techniques for piece - dyeing Orlon - cellulosic blends:

1. A single bath method, using dispersed acetate dyestuffs and regular rayon dyestuffs at a temperature of 205 F for shades up to the light-medium range.

2. A two-bath method, employing selected basic dyestuffs for the Orlon in the first bath, followed by a clearing of the rayon and a second dyebath in which the rayon is brought up to shade by the usual means. This method covers the medium to medium-dark range.

3. The two-bath cuprous ion process, in which the Orlon is dyed by the cuprous ion method, the rayon cleared, and followed by a second dyebath in which the rayon is dyed conventionally. This covers the very heavy shades not obtainable with basic dyestuffs.

There is a definite limit in shade depth to which Orlon 42 can be dyed with acetate dyestuffs while maintaining good wet fastness, and, in general, the use of acetate dyes beyond the medium shade range meets the law of diminishing returns.

With basic dyestuffs, a key point in dyeing Orlon 42 is the need for maintaining temperatures of 207 to 210 F. However, below 205 F the difference in temperature can be compensated for by an increase in dyeing time and use of certain carriers, such as phenol.

With the cuprous ion method, it is imperative that the rayon be cleared of copper before the start of the rayon dyeing operation. Recently, a number of direct dyes have been developed which will tolerate the cuprous ion system.

Mr. Hindle stated it as his

opinion that there has not yet been developed a finish designed specifically for the acrylics. In fabrics where there is a substantial amount of Orlon, for example 75 per cent, the value of a typical rayon finishing treatment is extremely doubtful.

Acrilan-Rayon. Acrilan is readily dyeable by conventional methods with dispersed acetate, acid, chrome, neutral-dyeing premetallized, acid-dyeing premetallized, and with vat dyestuffs. Carriers are never necessary. Dispersed acetate dyestuffs make available a complete range of shades on Acrilan-rayon blends, from pastel to black, which can be dyed at 205 F in relatively short dyeing periods.

It has been found that after-coppering produces a wash fastness on the Acrilan in Acrilan-rayon blends which makes it capable of withstanding a No. 3 AATCC cotton wash test.

According to Mr. Hindle, the dyeing of Acrilan-rayon blends with dispersed acetate dyes is closely similar to the dyeing of acetate and rayon, except that a temperature of 205 F is required for dark shades.

Neutral-dyeing acid and neutral-dyeing premetallized dyestuffs in conjunction with rayon dyes will give an effective union by a single bath method, and are recommended where extreme light fastness is required. The Acrilan component of the blend is first dyed in a weakly acid bath, followed by a neutralizing step and completion of the rayon dyeing.

Mr. Hindle described methods whereby a 100 per cent acrylic blend capable of being piece-dyed to produce cross dyes, tone-to-tone, and two-color effects can be produced by blending Acrilan and Orlon 42. The Acrilan can be dyed a full range of colors with acid dyestuffs, leaving the Orlon undyed; or the required shade can be produced on the Orlon with basic dyes, followed by a dyeing of the Acrilan with acid dyes in the same bath, to give well defined two-color effects.

Discussion

Fibers — Dyeing and Finishing — Quality and Quality Control

THIRTEEN panelists participated in a question-answer session held as the finale of the AATCC Symposium. The panel was divided into three sections: Fibers, Dyeing and Finishing, and Quality and Quality Control, each headed by a chairman. All were monitored by Charles W. Dorn, J. C. Penney Co. Introductory talks were given by each of the three chairmen.

Fibers. C. W. Bendigo, American Cyanamid Co., chairman of the fiber panel, pointed out the vast new variety of new fibers, blends, and physical treatments thereof that have recently come into being, adding that the diverse markets for textiles can support this variety. This condition makes it necessary to know the end use of fabricated products; they must be engineered "from the molecule up." This engineering must include fibers, yarn, cloth, cutting, and styling—not just the fiber.

The large number of trials now being run will eventually resolve themselves into a regular, standard part of our operations, Mr. Bendigo concluded.

Dyeing and Finishing. The process of elimination will leave the significant new dyes and mechanical innovations required by the introduction of the new fibers. This fact plus some of the problems facing industry were brought out by Francis S. Richardson, Waldrich Co., dyeing and finishing panel chairman.

Delivery pressures in the face of first try procedures, difficulty because of multi-end-use fabrics and lack of knowledge of what the uses are, plus the great variety of blends, all contribute to the problems of dyers and finishers.

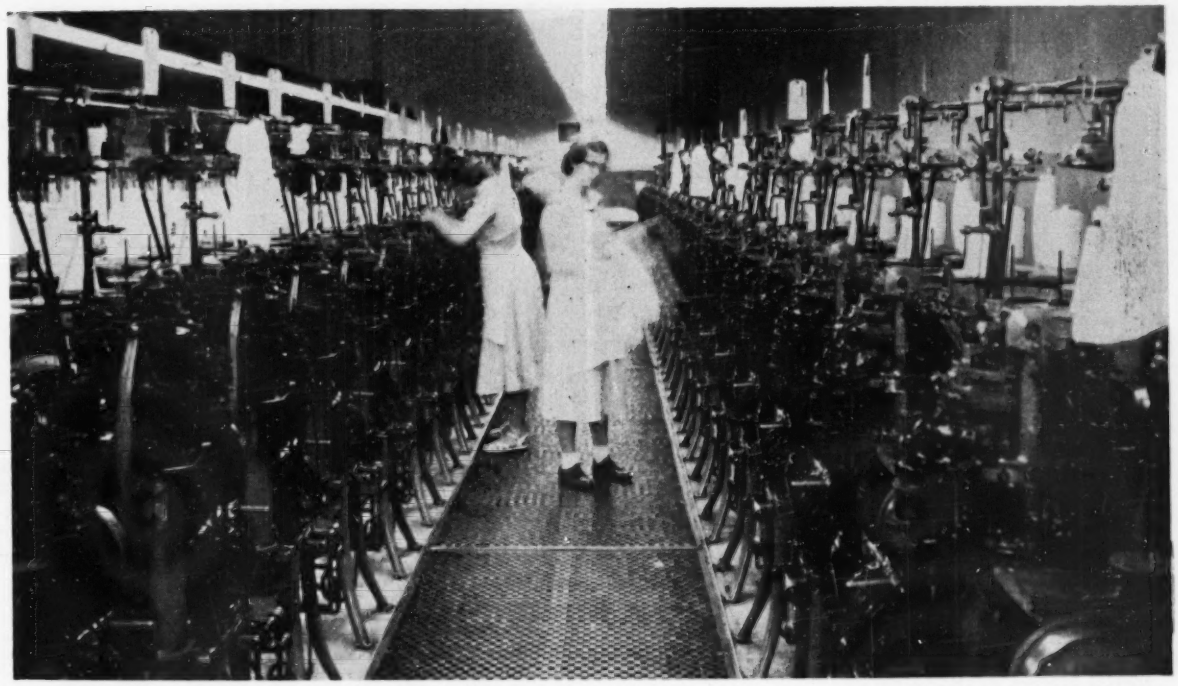
Quality and Quality Control. Henry F. Herrmann, General Dyestuff Corp., acting as chairman of the quality and quality control panel, stated that the buying public must be educated to an understanding of textile products which will lead to intelligent buying. This education can be best performed by the department store.

Quality is a go-getter in business; omission of quality controls, misleading trade publicity, and improper pricing are detrimental to maintenance of good faith and the securing of repeat orders.

Question and Answer Session. A great variety of questions was put before the panelists. When asked about the future of the new synthetic fibers, Gerald K. Lake, Burlington Mills Corp., mentioned that we have only touched the surface of the possibilities. He stated that the engineering of fibers and fabrics for specific end uses is impractical by itself.

In answer to a request for an enumeration of the problems confronting dyers in the next five years, Fred Fordemwalt, American Cyanamid Co., gave competition as the basis of these problems to come. The production of better dyes which can be quickly and simply applied, along with a more complete knowledge of dyestuff application by the dyestuff manufacturer will be important. Ways to keep equipment busy and the development of continuous process methods to handle small batches of goods economically will also loom large in the list of prob-

(Continued on page 205)



INCREASING POPULARITY OF SEAMLESS nylons has increased pressure for more production on existing machines.

Knitting 400-needle nylons?

If you are, then compare your mill practices with these.

By Dan Tims

EXCLUSIVE

LADIES' nylon hose made on circular knitting machines have been gaining in popularity for more than a year, and many problems have arisen as a result of the pressure to increase production on existing facilities in many mills.

A major portion of the troubles encountered are a direct result of efforts to increase production without the essentials needed for the amount of production desired. The essentials are simply: enough machines and sufficient personnel to do the job.

Machines. One mill has found that 26 stockings per machine per eight hours of operation is about optimum production on 400-needle "Dancing Twins" knitting mesh fabrics of 15 denier nylon. This mill has found that 28-29 stockings per machine per eight hours operation is about optimum on the same machines running plain fabrics.

About 196 rpm has been found to be the most desirable speed in one instance. Speeds are determined by the condition of the machine, to some extent, and also by the caliber of the fixer's work. Optimum speeds should be determined on the basis of local conditions.

Higher speeds and production may be obtained with little difficulty; however, seconds increase in frequency, quality usually goes down, and the increased production is seldom worth the hurry.

Machine operating costs also increase in direct proportion to the speed of operation beyond the optimum. The additional cost of production beyond the local optimum usually nullifies any increase in the number of dozens produced. In most instances more machines and personnel are needed to fill the need for additional production.

Personnel. Some mills on exceptionally high quality work employ as many as one fixer for each 21 machines and one knitter for each 21 machines. These mills make only premium quality goods and have found that their particular market is better for the extra good work.

With fewer machines to attend, more attention is paid to every

ONE MILL REDUCED HANDLING and attendant pull threads by using racks to hold the bundles of hose at the end of each knitter's row of machines. The knitter places the stockings on the racks which are held in special holders as shown here.

FILLED RACKS accumulate in special holder (shown at left) and are transferred to a portable rack carrier like the one shown here. This system permits handling the stockings by the welts only. No trays are used in this mill.

detail, more can be expected of the personnel, and production and quality can be maintained at unusual levels. These premium goods mills have been operating six days per week on a three-shift basis for a long time.

Another mill has found that 45-47 machines per fixer and about 30 machines per knitter is about the correct load for the personnel-machine combination. The factory may recommend 60 machines per fixer but each individual plant must determine the load, depending upon the machines and personnel.

Handling. Another factor in the production equation is the amount of handling required in each mill. For example, one mill has reduced handling and attendant pull threads by using racks to hold the hose in bundles of one dozen pairs. No trays are used in this mill.

This system of handling is similar to practices in some full-fashioned hosiery mills and permits handling the stockings by the welts only. The knitter places the stockings on a rack which is held in a special holder at the end of her row of machines. When a rack is filled, it is transferred to a portable rack carrier (photos above).

Teflon Yarn Resists Heat and Chemicals

"Teflon" tetrafluoroethylene fiber—a new fiber so resistant to heat and chemicals that laboratory workers call it "dragon fur"— is being evaluated strictly as a tool for industry. It was emphasized that *there are no textile apparel uses envisioned* for the fiber at this time.

"Teflon" has a high mechanical strength over a wide range of temperatures. It retains useful strength to over 400 F, and for some applications even over 500 F. Its impact strength is high, even at minus 90 F.

The fiber resists action by such chemicals as sulfuric, nitric, and hydrochloric acids. In the range of chemicals, "Teflon" is affected only by fluorine gas and chlorine trifluoride at high temperature and pressure, and by molten-alkali metals.

Projected end-uses for the fiber include liquid-filtration fabrics, gas-filtration fabrics, packing for pump and valve shafts, gaskets for flanged piping and other joints, laundry textiles for press covers, pads, and roll covers, special conveyors and beltings, special roll covers, diaphragms for valves, electrical tapes and wire wraps, and sewing thread.

"Teflon" has good electrical properties. It is non-flammable, but will melt with decomposition. Its moisture absorption is zero, and it is the most water-repellent fiber known. Its dyeability is very poor, but the fiber can be bleached white in a strong, oxidizing mineral acid.

At present, 400 denier yarn with 60 filaments mounted on a one-pound cone is being produced experimentally. This is continuous filament; there is no "Teflon" staple as yet available. Sales of the experimental yarn for commercial evaluation are being handled by Du Pont's Textile Fibers Department in Wilmington, Del.

By R. G. Carson, Jr.
Associate Professor
Clemson College

EXCLUSIVE

what is it?

who should be trained in it?

what type course should be given?

who should teach it?

WORK SIMPLIFICATION

WHAT is work simplification?

"In a few words, work simplification is the examination of a job, including its relationship with other jobs in the plant, with a view toward decreasing the work per unit of output. A complete examination would also consider such things as the raw material used and the form of the finished product."

That is the way an industrial engineer would consider work simplification.

In recent years there has been an increasing tendency to encourage supervisors, mechanics, and operators, in some instances, to do their own work simplification. Some of the "Training Within Industry" courses had this as their aim.

Our American standard of living is based on the fact that productivity per man-hour has increased over the years. That standard of living can only continue to rise if productivity per man-hour continues to increase. Work simplification is improvement in the job method to allow more production per man-hour without a corresponding increase in manual work or effort.

I think we all agree that if a man turns out twenty units per hour instead of ten, by working more effectively, the result is a decrease in cost per unit. This savings can be passed on to the operator (labor), to the company (stockholder), and to the public (lower prices for the customer). The exact details of the division of the savings are sometimes controversial.

The usual result has been that the customer or the public has gone wanting in the division. Of course, a large part of our increased productivity per man-hour of labor has come about through mechanization of part of the job. In this situation, the machine cost must be considered before we can have any "savings" made by the change in method.

Most of work simplification is primarily concerned with the improvements of work place layout, work methods, and work sequence that can be made without the purchase of elaborate machinery.

Tools. There are certain tools or techniques (graphs and charts) used to help improve the method. These are explained in a simple and effective way in several books, conceived and written for the plant supervisor. These tools are all designed to give a picture of the way the job is performed now, and highlight weak points in the present method. They are also designed to allow a graphic compari-

son between new and old methods.

Once having filled in the necessary charts depicting the old way of doing the job, the person making the analysis must still do that most important of all part: Improve the way the job is done. This calls for imagination, ingenuity, and open-mindedness.

The primary requirement for good work simplification is to be open minded, and the primary benefits gained from training in work simplification are the ability to look at all sides of the problem and the ability to accept change. The charts so generally and successfully used during the training phase of the program are often used later by the trainee, not to improve methods, but to sell his improvements to others.

Our original question was: "What is work simplification?" We can answer that now by saying: "Work simplification is the result of open-minded, critical appraisal of the job, coupled with the ability to accept change."

Train Everyone. Our second question is: "Who should receive training in work simplification?" The answer is easy: "Everybody." Start with top management, and work down just as far as you can. We will assume that top management is sold on the idea, or you will be stopped before you start. Courses for the top people can be short and of the type sometimes called appreciation courses. Those for other levels of management, starting with the superintendent, should be longer and tailored to the group. By all means try to include the loom fixer, card grinder, section man, and mechanic group of personnel in the formal courses given.

It may not be possible to give class room type training to all operators. You may have to depend on posters, company organs, and personal contact between the operator and supervision for some of the training at this level. If sound time and motion study procedures are used in the plant, much training will be done by the industrial engineering group when they discuss motion and time study procedures in making job load changes or wage incentive installations.

More Important. Of the entire group, all personnel between the levels of foreman and mechanic are the most important so far as application of work simplification principles is concerned; this group needs to be given more detailed instructions and more thorough training than the other groups.

Who Should Teach? The third point is, "Who should give the training in work simplification?" There are a number of possibilities here:

(1) You can hire an outside person to come in and conduct a course or a series of courses on work simplification. There are people who specialize in this work, and there are consulting firms who will do the job, either by itself, or as a part of a broader program. These firms do a good job; however, this arrangement may reduce the program to a one-shot affair.

Example: A mill hired a college professor to put on a work simplification course for all supervisors three or four years ago. Of the group of people who took the course, some are still around, but many of the supervisors there today were not supervisors at the time the course was given, and did not participate in it. Despite this fact, the mill points to that one training course in work simplification to show that they are work methods minded.

An advantage of using outside people for the training is that the trainers are usually expert instructors. They have a wealth of experience in work simplification training and often have good training aids, such as before and after motion pictures, charts, and posters.

(2) Plant personnel can conduct the course. If the plant has a good motion and time study or industrial engineering department, the personnel in these departments are qualified to conduct the course. This plan has the advantage of being less costly. Also, it can be a more continuous program. It can be made to reach all supervisors, and potential supervisors. It is an excellent part of a "potential supervisors" course for plant personnel who show promise and for newly hired college graduates.

Personnel in the plant might be better able to judge students in such a course, and to evaluate their work. Another advantage here is that the course brings plant personnel closer together. The production man gets to know the motion and time study man. In the future, when the production man needs help on a tough problem, he not only knows whom to go to, but he knows the man personally. This is an extra dividend to the course, and an important one.

This scheme has disadvantages too. The industrial engineer is not likely to be as well trained in instructional methods as industrial trainers are, or as the outside men might be. With help and guidance, however, he can do a good job.

Management Participation. Some participation by top management in these courses lends a note of authority to them and gives the feeling that the program has the support of the top executives. One vice-president in charge of production of a chain of mills with seven or eight units in the South personally put on courses at his plants in motion and time study. These lasted for several days and were attended by the supervisors of the plant.

The students got the impression that the vice-president believed in the motion and time study program going in their plant. Needless to say, the time study men met with much less resistance from the supervisors in these plants than they do in some plants. Of course, this example is a little extreme. Perhaps an introduction by the general manager would be sufficient, or a presentation of certificates by the top "brass."

Special Courses. Some mills have adopted another approach for instructors. Selected men were sent to special short courses in work simplification, such as those given at Lake Placid or those given at several colleges and universities. Several mills have sent from one to three men to these courses. These men then come back and put on their own courses for other personnel in the plant. The local courses are often patterned in part on the course just completed. The

college courses are usually special short courses or conferences, given specifically for people from industry. Usually this approach is the best one.

What type of course should be given? As previously mentioned, the answer to this question depends on who the course is for and on who gives it.

The appreciation course given for top management should be short, maybe two to three hours, and designed to give an overall look into the techniques used in work simplification and the type of training to be given at greater length with other classes. Practical work should be very limited or non-existent in this course.

The course for the supervisor through mechanic group can run from eight to twenty-four hours. The usual procedure is to have sessions once or twice per week for about two hours each session. This is often supplemented by problems which the students are assigned to work out in their own departments between classes. These problems are discussed by the entire class when the solution is brought in, and often produce real improvements in specific jobs and better understanding between supervisors from different departments.

Some of these courses are off-hour courses, and attendance is voluntary. Others are given on company time, and attendance is not voluntary. Of course, arrangements must be made to accommodate the personnel from all shifts.

Course and Trimmings. At least one group of mills puts on an intensive type of course. Selected personnel come for the entire day, perhaps one day a week, until the course is completed. They have classes all day, have lunch together at the best hotel, and give a graduation banquet at the end of the course, at which time certificates are presented. The additional cost for the trimmings is not excessive.

Another mill carries on supervisory training all the time, and sessions on work simplification are worked in from time to time. In this mill attendance is voluntary and without extra pay.

Another mill gives all its trainers and new supervisors a four-hour course in work simplification. Still another mill once trained all its supervisors in work simplification, repeating the course as necessary to catch the new supervisors, but has now cut out all its work simplification training. So you see, you can find almost any type of procedure if you try.

Other Ways of Telling Story. House organs are effective as a follow-up on the work simplification courses and reach people not covered in other types of training.

A few organizations have made outstanding use of this technique. Pictures, cartoons, and write-ups are used to explain principles of work simplification and to illustrate actual changes made in specific jobs.

The observation has been made several times by industrial engineers that work simplification training paid off in their plant, not in the actual improvements made by the people who took the course, but in their receptiveness to improvements made by the industrial engineering department. Supervisors have some times recognized that a job was being done inefficiently and asked the industrial engineering department for help in working out a better method. The foreman has recognized, perhaps, that "We spend a lot of time cleaning on that machine—I wonder if some of it could be cut out, or done in less time." When supervisors have brought problems of this type to the industrial engineering department, the program has been a success. The supervisors understand what is going on and, therefore, are no longer afraid of it.

Charts Help. Work simplification charts are important sales tools. One industrial engineer in a Georgia cotton mill worked up a rather elaborate chart, not to improve the method, but to sell it to the overseer in the department. The overseer had lived with the job for years, but he did not see the possible improvement until it was presented to him in graphic form.

Work simplification is now a part of the curriculum of many college students. About a third of most courses in motion and time study is spent on work simplification. All the textile students at Clemson and Georgia Tech take such a course. Work simplification is assuming its rightful place as a management tool in the modern textile mill.

MILL VICE-PRESIDENT PUT ON COURSES at several of his plants. Students got the idea that their management believed in the program.

GRADUATION BANQUET followed intensive course put on by one group of mills. Additional cost for trimmings was not excessive.

BOOKS THAT EXPLAIN WORK SIMPLIFICATION TECHNIQUES

R. M. Barnes, **Work Methods Manual,** John Wiley & Sons, New York.

R. M. Barnes, **Motion and Time Study,** 3rd ed., John Wiley & Sons, New York.

Maynard and Stegemerten, **Operation Analysis,** McGraw-Hill, New York.

R. L. Morrow, **Time Study and Motion Economy,** Ronald Press, New York.

ANOTHER LOOK AT THE RACKETS

By Ringgold Arden

EXCLUSIVE

AS WE SEE in the daily papers, week after week, reports of the activities of labor rackets throughout the country, we always wonder why the people of the United States will continue to put up with the losses and inconveniences and the threat to public safety and personal property caused by the irresponsible actions of racketeers who have got control of groups of working people who are all too often willing to follow these racketeers to their own destruction.

The philosophy of labor racketeering was summed up very neatly a good many years ago by one of the racketeers himself when somebody asked him if it would not be wiser to deal reasonably with employers than to make arbitrary and impossible demands which had been driving businesses out of the town where this labor man operated.

The labor racketeer replied, "No. These people do not hire me to deal reasonably with their employers, but to get something for them, and when I can no longer get it, they will fire me and hire somebody who promises to get it."

That single sentence probably covers the reason for as much as 90 per cent of the labor trouble which occurs in the United States. In every union, the people who run it know only too well that the moment they begin to act like sensible and responsible people, and deal with employers accordingly, there are plenty of radicals in the union membership who are ready to spring up and denounce them as traitors to labor and pawns of management, and to demand their discharge and replacement by somebody more aggressively interested in constantly wringing something out of management whether it is there to be wrung or not.

We have frequently pointed out that running a labor union is a job, and in no sense participation in a crusade, as many ill-informed people seem to think. Running a labor union is just as much a business as running a textile mill or an insurance company, and the people who run the labor unions are, as a general thing, paid far higher salaries than they could possibly hope to make doing anything else. They do not want to lose their plush jobs any more than the manager of a textile mill likes to be fired; and if pursuing policies which will ultimately destroy a city will extend a lush job for a few years, the policies are probably going to be pursued.

We have seen Fall River, New Bedford, Lawrence, Lowell, and a long string of other northern cities robbed of their textile industries by just this attitude on the part of the labor racketeers.

It is a rare thing that a strike ever pays out, and the people who engineer these strikes certainly must know it. Yet, these people continue to pursue their obstructionist policies, while at the same time they blame everybody but themselves for the damage caused by those policies. That the people of this country will put up with some of the indignities inflicted upon them by these rackets, is astonishing.

For example:

A dispatch from Pittsburgh on May 8 states, "For 23 weeks citizens of this steel and coal center have had to walk through picket lines to make purchases at the city's five principal department stores."

Why is this? The truck drivers' union, containing 612 drivers and helpers, is on strike to prevent the stores which employ them from dispensing with unnecessary helpers, and from making some of their deliveries by parcel post instead of by unduly expensive privately operated trucks.

These truck drivers have a pay scale of $2.12½ an hour, and certain other benefits which further increase their total earnings. They are not on strike for higher wages because they undoubtedly realize that they are overpaid now. The strike is aimed at forcing upon their employers the union idea of how their businesses should be managed. That is, the people who control the truck drivers' union are perfectly willing to cause loss and inconvenience to several hundred thousand persons, tremendous losses to five department stores, and the loss of 23 weeks of wages to their own members, rather than admit that they have in previous negotiations forced these department stores to hire unnecessary workmen who pay union dues and therefore contribute to the income of the people who run the union.

Incidentally, this truck drivers' union is one of the most powerful and arrogant in the United States, and it seems to know no law but its own. This is the union for which the Supreme Court ruled that highway robbery was legal when practiced by this racket.

The day after this cheerful bit of news trickled out of Pittsburgh, the bus drivers went on strike in that same city. In this case, the strike was over a wage increase. The basic wage of the city bus drivers was $1.92 an hour, and the bus company was offering to raise this six cents an hour, to $1.98.

Wool Overseers Meet in Boston

Staff Report

The semi-annual convention of the National Association of Woolen and Worsted Overseers, held May 7 and 8 at the Hotel Manger in Boston, was devoted to discussions of new equipment shown at Atlantic City and open floor discussions covering technical mill problems.

Following the custom of the group, P. Hayden Clark, Talbot Mills Inc., was chosen as guest of the convention and was introduced at the various guild meetings. Mr. Clark reported on the National Association of Wool Manufacturers meeting at which a cooperative promotional program was launched with the theme "Nothing measures up to wool."

The Carders Guild heard a discussion of the 84" Davis & Furber card which features redesigned eccentrics on the tape condenser which have a potential of 500 to 600 rpm. The subject of stripper speeds was brought up during the meeting and debate from the floor followed. It was pointed out by Wilfred J. Deschenes, Albany Woolen Mills, that it is not necessary to run strippers at speeds of 170 to 300 rpm as against 8 to 10 rpm worker speeds. All that is required, he said, is enough speed to lay the stock back down on the cylinder.

A report on the details of operation and advantages of Pneumafil was presented to the Spinners Guild by David Thorpe. In answer to questions from the floor, it was brought out that piecing down ends requires both hands at the break in order to avoid pulling long fibers out of the tube and causing a faulty piecing. Nicks on the tube, Mr. Thorpe said, can cause pig tailing so that a hard twisted waste can result.

Three of those seated at the head table during the banquet were (left to right): **James J. Burns** of Livingston Worsted Mills, association secretary; **William H. Neumann** of A. & M. Karagheusian, association president; and **P. Hayden Clark** of Talbot Mills Inc., "guest of the convention."

Arthur Dennison, Crompton & Knowles Loom Works, explained the Select-A-Pick attachment for W-3 and W-3A looms to the Dressers and Weavers Guild. The talk was illustrated by a film, blackboard illustrations, and a booklet given to members. The main topic of discussion was the methods used in building chains for a series of fancy cloths that the attachment makes possible to run on automatic looms.

New officers of the Guilds were elected at the end of the May 7 Guild meeting sessions. The Carders Guild selected James Mansfield, Davis & Furber Machine Co., as chairman; Cyril Wingenroth and George W. Bollmen as vice-chairmen, and William H. Neumann of A. & M. Karagheusian Inc., as secretary. Mr. Neumann is also the president of the Overseers Association.

The Association business meeting, held on May 8th, featured a talk by George Pickett in which he urged "Buy American" and resist tariff reduction policies. James J. Burns, Association secretary, reported 19 new membership applications which were approved by a vote at the meeting.

Union leaders said the offer amounted to "no increase at all."

$1.98 an hour does not sound so bad for bus drivers, and is far above what would be considered excellent wages for that sort of employment in most cities. However, if truck drivers delivering parcels for department stores can make $2.12½ an hour, the labor bosses running the bus drivers' union are under tremendous pressure to try to get at least that much for their members. The constant drive to "get something" is always on, and even when people appear to be overpaid by comparison with people doing the same kind of work in many other sections of the country, the people who collect their dues and have to try to keep them happy must endlessly try to get something more, whether it is reasonable or just, or whether it is ridiculous.

Incidentally, about this same time the bus drivers in Atlanta started agitating for a wage increase, and their basic wage is $1.57 an hour. The Pittsburgh bus drivers, making 41 cents an hour more than this, went on strike for still more.

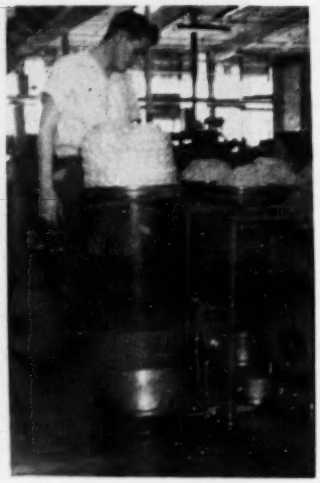
An enlightened and generous labor policy on the part of management is no insurance against having goons attack the business and destroy it if they can. We see by the paper that more trouble is

No Lifting to Weigh!

Scales operate just as efficiently if you don't have to lift the object to the scale stand. Just slide it on!

Here an operative checks the weight on a can of sliver from the pin drafter, by pushing the can onto the scale stand installed at floor level. The principle can be applied to almost any department.

The idea comes from Bachmann-Uxbridge Worsted Corporation, Talladega, Ala.



afoot at the plant of the Kohler Company in Kohler, Wisconsin. As we remember it, this company used to be considered one of the finest examples in the world of an employer with enlightened labor policies and an earnest effort to do everything reasonably possible for its people.

It was an early target of the labor racketeers, who always use the argument in whipping their dupes into a frenzy of mass enthusiasm for labor racketeering, that if people have done this much for you willingly, think how much more they could do if you made them. We recall some pretty rough goings-on in Kohler a number of years ago when the CIO was just beginning to realize what a sweet racket it was running with the active assistance of the Federal Government.

Now, there is trouble in Kohler again, and a newspaper headline on May 12, says, "SHERIFF SEES GOONS BLOCK KOHLER GATES —Workers Are Barred by Massed Pickets." These goons blocked the entrances to the Kohler plant and made it impossible for anybody to get in without fighting his way in, and the sheriff helplessly stood by and did nothing.

Getting back to Pittsburgh, on May 7, the CIO United Steel Workers' Wage Policy Committee decided to hit the steel companies for a pay hike for some 600,000 people, and to again try to force the steel companies to agree to the guaranteed annual wage. This guaranteed annual wage is one of the socialist dreams which various CIO leaders have been cherishing for many years.

Some months ago Mr. Reuther of the United Auto Workers announced that the guaranteed annual wage was necessary to protect the members of his union from unemployment in case the people of the United States were reluctant to buy the high-priced cars manufactured by Mr. Reuther's workers. Mr. Reuther advanced the interesting theory that if the automobile manufacturing plants were faced with ruin on account of having to pay a guaranteed annual wage to workers they didn't need, and couldn't use, they would get out and sell some automobiles. Now, the steel workers' union comes up with this same interesting proposition. This is not the first time they have tried to force the steel manufacturers to agree to a guaranteed annual wage.

According to the Associated Press dispatch on this subject, the steel workers involved now average between $2.14 and $2.24 an hour. To most of the working people in the United States, this would seem like pretty good pay, but we must remember that whether the pay is good or poor, the pressure on the people who run a labor racket is always "to get something more." The actual amount of money received by the people in a union seems to have practically nothing to do with the perpetual demands made by the union.

These steel workers come up with this cry for more pay at a time when the steel mills are running about 68 per cent of capacity. About a year ago they were running at 100 per cent. A great many people feel that a cut in the price of steel might stimulate demand and get the rate of production considerably above 68 per cent. The labor union people, however, declare that this is nonsense, and that an increase in the price of steel is what is needed.

If the steel companies could have been forced into this guaranteed annual wage several years ago when they were operating at 100 per cent capacity, they would presumably be paying wages at present to more than 150,000 people that they don't need, and for whom they have no work. Of course it is tough on people that lose their jobs. It is also tough on people who have jobs to have to pay more for things than they are worth. Sometimes giving better values to the public stimulates business enough to create a great deal of employment where none existed before, but the people who run labor unions are either ignorant of this fact, or studiously seek to suppress it.

The textile industry in the northern states has just about been ruined by the activities of these labor racketeers. In the South it has been relatively free from the curse of this racketeering. There are of course some unionized mills, but not enough to give the people who control the unions the iron-clad monopoly that they exercise in textile centers of the North, and they have been forced to pursue the utterly obnoxious policy of dealing reasonably with the employers of their members.

The prosperity of the South which has recently been so greatly expanded by the flight of industry from the labor rackets in the North is going to be largely dependent on the success of southern industrialists in keeping the rackets out of southern industry as effectively as this can possibly be done.

PICKER ROOM PRACTICE IN GEORGIA MILLS

Mill	Type Cotton Used	Picker	Beats per Inch	Production Lbs/Hr	Lap Weight Oz/Yd	Weight Tolerance Allowed	Per Cent Within Limits	Test Laps Each Picker
B	—	3-beater	38	450	16	± 1 lb	—	Weekly
D	M 15/16"	—	34	350	16.32	± 1½ lbs	—	—
E	SLM 15/16", LM 7/8"	3-beater	56	420	15	± ½ lb	—	10 days
F	SLM 7/8" LM 15/16"	2-beater	23	360	14½	± 2/5 oz/yd	95	Semiweekly
G	M 1"	2-beater	85	380	16.32	± 1 lb	60	Twice daily
H-1	SLM 15/16"		25	400	14	± ½ lb	—	Daily
H-2	15/16"	2-beater	34	460	14	± 2/5 oz/yd	96	Semiweekly
H-3	SLM 7/8" to SM 1 1/4"	3-beater	72.57	360	14	± ¼ lb	92	4 hours
I	SLM 1-1/16"	3-beater	86	324	14.7	± 3/4 lb/yd	—	Weekly
K	American 7/8"-1 1/4" Egyptian 1-13/32"	1 single process, 4 two-process	41.5 or 39	—	13.25	± 2/5 oz/yd	72	Daily
L	M 1"	3-beater	80	330	14	± ½ lb	95	Biweekly
M	M 1"	—	32.4	330	15.04	± ½ lb	—	Biweekly
N	M 1-1/16"	2-beater	38	375	13.2	± ½ lb	98-100	Weekly
O	SLM 1-1/32"	—	—	470	13.5	± ½ lb	—	Once/3 mo
P	SLM 1" & LM 1"	3-beater	52.36	408	17	± 0.98%	70	Once/120 hrs
R	M 1-1/16"	3-beater	47.8	400	14	± 1.2%	96	Semimonthly
S	LM	—	56.5	345	14	3/5 oz/yd	99.42	Weekly
T	SLM	—	50	320	13-1/3	± 2/5 oz/yd	99	Semiweekly
U	M 1"	—	61.71 or 82.76	400	14.29	± 0.516 lb	92	Weekly
V	M 1-1/32"	3-beater	53.15	400	14.75	± 3/4 oz/yd	98	Weekly
W	SM 1-1/32"	—	—	391	15.0	± 3/4 lb	90	Weekly
X	M, SLM, SGO	3-beater	53.5 or 91.5	400	17.0	± ½ lb	—	Weekly
Y	—	—	22	400	16	± ½ lb	85	Weekly
Z	M & SLM 1"	3-process	53.34	343	14	± ½ lb	—	No Schedule
AA	SLM 1"	—	53.1	322	14.67	± 0.3 oz/yd	81	Weekly

GEORGIA MILL MEN TOLD HOW THEY CONTROL

Variation of Picker Laps

and reported their experiences with

★ *High Licker-In Speeds*

★ *Change-Over from Cotton to Rayon*

★ *Sliver Compression*

★ *Drawing Sliver Control*

Staff Report

OVER 200 members and guests of the Textile Operating Executives of Georgia met in Atlanta on May 8 for discussions of opening, picking, carding and spinning, with **Turner R. Scott** of Martha Mills, Silvertown, Ga., presiding.

The meeting featured an open forum discussion of replies by mills representing 1,381,784 spindles to questions submitted beforehand.

The opening, picking, and carding section of the meeting was led by **Lester D. Sayers,** The Dunson Mills, LaGrange, Ga. The high lights of discussions during that portion of the meeting are given on this and pages 121 and 123.

John I. Alford, Covington Mills, Covington, Ga., guided discussion during the spinning section of the program. A report of that part of the meeting will appear in the August issue of TEXTILE INDUSTRIES.

Picker Lap Variation. Twenty-five mills replied to a question asking for data on picker lap varia-

AMERICAN MONORAIL LOOM CLEANER

prevents lint accumulation on looms and weave room ceilings

The first experimental loom cleaner was placed in operation by American MonoRail in 1948. A similar model was shown at the Southern Textile Exposition, Greenville, S. C., in 1949 and earlier that year was the subject of editorial mention in the textile magazines.

Since that time, much data has been gathered covering the application of loom cleaners under widely varying conditions. Not all experiments were successful. American MonoRail engineers are, therefore, fully qualified to make accurate recommendations based on actual experience.

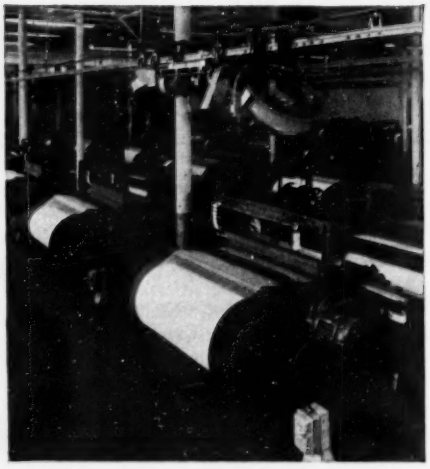
Here are a few results obtained under the conditions recorded—

Cost of cleaner installation reclaimed in 1.7 years by reduction of manual cleaning in a weave room operating at 77% humidity on synthetic yarn making fine goods.

57% reduction of cleaning labor alone in weave room running over 1000 looms—90% humidity—light sizing—making gauze.

In a mill running on broadcloth, loom and ceiling cleaning over 500 looms showed an average of 1% upgrading of cloth. Cleaning labor savings pay for installation every two years.

Before you buy, make true mechanical evaluation of this equipment. Let an American MonoRail engineer offer recommendations at no obligation.



with automatic loom and ceiling cleaning 57% of manual cleaning is eliminated. Ceilings are blown-down once a month instead of every week.

without automatic cleaning lint piles up quickly. Above picture shows accumulation in 16-hour operation.

AMERICAN OVERHEAD HANDLING EQUIPMENT

MONORAIL COMPANY

13106 ATHENS AVENUE • CLEVELAND 7, OHIO

CAUGHT BY TI'S CAMERA DURING THE MEETING, **W. H. Streetman, Felton Thompson,** and **Turner R. Scott,** all of Martha Mills, Silvertown, Ga.; **Benny J. Mathis,** Atlanta Textile Machine Co.; and **J. M. Barfield,** of Martha Mills. Top center: **Lester D. Sayers,** The Dunson Mills, LaGrange, Ga., led the opening and carding discussions. Top right: Pepperell Mfg. Co., Lindale, Ga., sent, left to right, **G. H. Smith, G. E. Wood,** and **Cliff Hatch,** shown here with **Charles Bradley,** Scottdale (Ga.) Mills, and **Fred Ridenhour,** Draper Corp. Bottom left: Crystal Springs Bleachery, Chickamauga, Ga., was represented by **T. C. Giles, J. C. Webb, J. F. Henderson,** and **J. G. Ratley.** Bottom center: spinning discussions were guided by **John I. Alford,** Covington (Ga.) Mills. Bottom right: **Earl Owen** and **Allen Bentley,** Swift Mfg. Co., Columbus, Ga.; and **M. E. Hurst,** Draper Corp.

tion and methods for correcting machines which are out of tolerance. The table (at top of page 119) gives details of the practices at the mills which replied.

Most of the mills have lap meters and check a lap from each picker weekly, although some mills check laps as often as every four hours of operation and others as infrequently as once in three months. At some mills only 60 per cent of laps are within tolerance, while claims of close to 100 per cent acceptable laps are made by others. The mills with the highest percentage of laps within weight limits are not necessarily those which permit a wide tolerance above or below the standard.

The usual procedure is to check the evener motion first when a picker is found to be making unacceptable laps. At Mill S the following procedure is used for correcting machines "out of control":

1. Remove chokes.
2. Adjust and regulate evener.
3. Check amount of cotton fed into breaker hopper.
4. Check air current.
5. Check per cent of reworkable waste fed into opener line.

Mill E has the section man check aprons, leathers, grids, screws, evener motion, and then has another lap tested for results.

One mill noted that the blending reserve may be responsible for off-weight laps. If the cotton level is high, the beater will recirculate it, causing it to become lumpy.

Mill G checks and cleans the synchronizer, evener sectional plates, and evener belt. Checks are also made for draft, lost motion, and chokes, and to make sure that the hopper is well supplied with cotton.

High Licker-in Speeds. Ten mills reported having experimented with high licker-in speeds. Of these, three considered that quality had been improved, principally through a reduction in nep count and a cleaner sliver. Two mills had poor results, with increased nep counts being the chief complaint. The other mills reporting either had experimented on too limited a scale to be sure that their results were significant, or had found that high licker-in speeds made no appreciable difference in quality.

The licker-in speeds tried varied from 655 to 980 rpm. The mill reporting the best results uses a licker-in speed of 800 rpm. (At about 920 rpm the surface speed of the licker-in is equal to that of the cylinder, preventing a proper transfer of stock. This may account for the poor results reported

THESE CHANGES HELPED IMPROVE DRAWING SLIVER UNIFORMITY IN GEORGIA MILLS

INSTALLED new top, bottom, and calender rolls.

CHECK mechanical condition thoroughly each month.

RUN tension as slack as possible without bagging.

USE evenness tester to spot faulty deliveries.

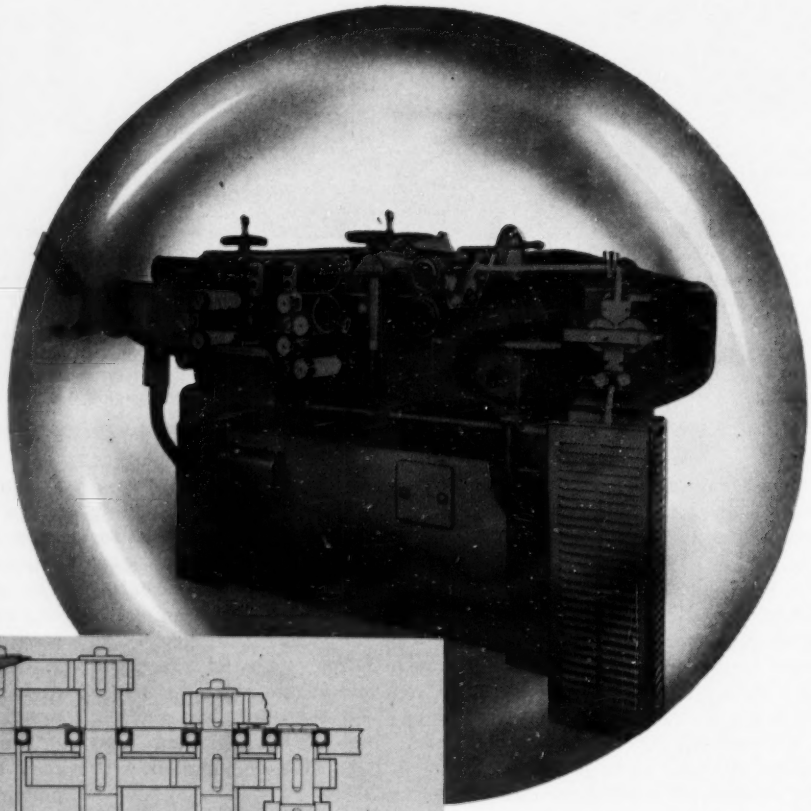
WEIGH and check each delivery every four hours.

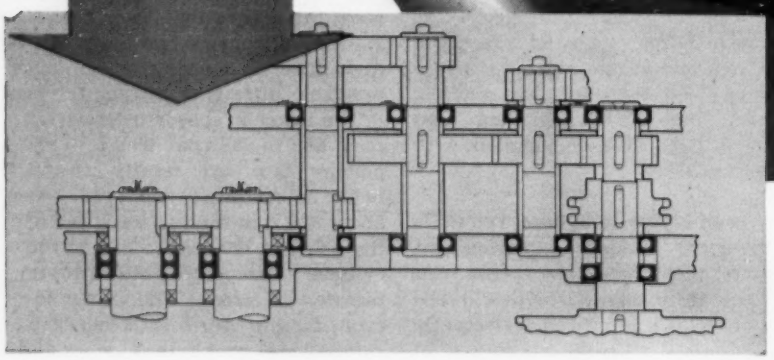
INSTALLED top rolls of uniform size.

REPLACED old rolls with ball bearing hardened-type rolls.

CONVERTED from four to eight ends up, going from 16 to 64 doublings.

56 New Departures in the New Turbo Stapler





The main drive and outboard shafts of the Turbo Stapler show typical application of single and double row New Departure bearings.

New short cut to staple fiber spinning! The new Turbo Stapler reduces tow to sliver in *one machine* . . . brings about substantial savings in processing operations.

Mounted on New Departure **ball** bearings, shafts of this machine are held in smooth-running, rigid alignment, assuring uniformity of product.

Most of the 56 New Departure **ball** bearings in the Turbo Stapler are single or double seals. Keeping lubricant in . . . fibrous foreign matter out . . . New Departure sealed bearings offer the kind of oil- and grease-free conditions demanded by textile manufacturers. And, they reduce maintenance to the minimum, too!

For complete information—talk to your New Departure textile bearing engineer, today!

NOTHING ROLLS LIKE A BALL

NEW DEPARTURE
BALL BEARINGS

NEW DEPARTURE • DIVISION OF GENERAL MOTORS • BRISTOL, CONNECTICUT
Plants also in Meriden, Connecticut, and Sandusky, Ohio
In Canada: McKinnon Industries, Ltd., St. Catharines, Ontario

by one of the mills.—Ed.)

Change-Over from Cotton to Rayon. Several mills suggested the following changes on the picker when converting from 1″ cotton to 1-9/16″ rayon:

1. Close setting between doffer and lifting apron.
2. Decrease speed of lifting apron about 80 per cent, beaters and fans about 10 per cent.
3. Increase speed of doffer in hoppers.
4. Set kicker closer.
5. Increase draft one tooth.
6. Reduce tension weight to 12½ pounds.
7. Close all grid bars.
8. Change beater-to-feed-roll setting from ⅛″ to ¼″.
9. Use Kirschner beater in all three sections, with the following beats per inch: front, 46; middle, 33; back, 30.
10. Install top split lap preventer.
11. Reduce air pressure on pneumatic rack release from 50 pounds to 15 pounds.
12. Reduce lap length.
13. Reduce feed slightly by changing sprocket on spike apron.

All of the mills answering this question were in agreement that a continuous stripper can be used successfully in carding 1-9/16″ rayon.

No two of the mills use the same drawing roll settings for 1-9/16″ rayon. The settings reported are shown at the top of this page.

DRAWING ROLL SETTINGS FOR 1-9/16" RAYON
Settings Between Rolls

Mill	1-2	2-3	3-4	4-5
F	1-11/16"	1-3/4"	1-13/16"	—
G	1-13/16"	2"	2-3/16"	2-1/4"
L	1-11/16"	1-13/16"	2-1/16"	—
X	1-10/16"	1-13/16"	1-15/16"	—
Y	1-1/2"	1-5/8"	1-13/16"	—

Sliver Compression. Only four out of ten mills who reported having experimented with nylon trumpets at the card were satisfied with them. Three of these four mills have increased can weight from 10 to 46 per cent through the use of nylon trumpets; at the fourth mill can weight is unchanged. The six mills which discarded the nylon trumpets did so because they wore rapidly, caused extra pressure on gears, slowed the doffer, reduced uniformity, or made piecing-up difficult.

Compression springs on card calender rolls were favored by seven of the ten mills who had tried them. Increases in can content range from 11 per cent to 33⅓%, with most mills reporting a gain of about 20 per cent. At only one mill was there any effect on card sliver uniformity; in this case the coefficient of variation increased 2 per cent. One mill noted that compression springs were especially helpful with synthetics.

Three mills discarded compression springs after giving them a trial. Reasons given for their removal were uneven drafting at the drawing frame, excessive wear on bottom calender roll shafts and bearings, and strain on licker-in and doffer belts.

Only two mills had tried tongue and groove calender rolls on cards, while five had used them at drawing. One mill has retained them on its cards, with a 20 per cent increase in can content. On drawing frames, only one mill was dissatisfied with tongue and groove calender rolls, reporting that they increased ends-down in roving and spinning. Increases of 30 per cent to 46 per cent in can content were reported, with no effect on sliver evenness.

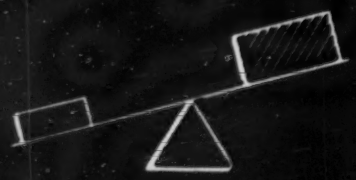
Four out of five mills approved of high compression drawing calender rolls. One mill had replaced them with nylon trumpets. In one case back roll settings on the fly frames were opened slightly when high compression drawing rolls were installed. Practice at a mill using these rolls and making a 60-grain sliver is to use a 0.13″ hole in the trumpet on first drawing and a 0.12″ hole on the finisher drawing.

(The spinning discussion, to appear in the August issue, includes tips for preventing slubs caused by blowers in spinning; maintenance methods for top roll covers; and revolving versus flat clearers.—Eds.)

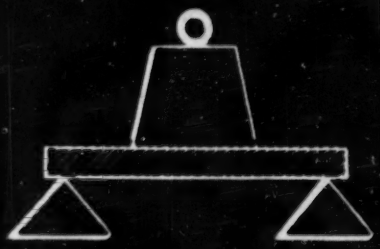
HERE ARE GEORGIA MILLS' DRAWING SETUPS

Mill	Cotton Grade & Staple	Grain Sliver	Type Drawing	Roll Settings 1-2	2-3	3-4	Doublings	N.U. %
C	M & LM 1"	55 & 65	Ideal	1-5/16"	1-7/16"	1-9/16"	8	15-16
H-1	SLM 15/16"	60	Saco-rettee	1-3/8" 1-5/16"	1-9/16" 1-1/2"	1-13/16" 1-3/4"	36	4-4.5*
H-3	SLM 7/8" to SM 1-1/4"	69	Saco-Pettee 4-roll	1-3/8"	1-7/16"	1-1/2"	36	3.90*
I	SLM 1-1/16"	56	SL 4-roll	1-5/16"	1-1/2"	1-7/8"	6	18-20
J	Karnak 2 & 3 1-13/32"	60	SL 3-over-4	2-23/32" (1-3)		1-23/32" (3-4)	8	15
L	M 1"	55	Saco-Pettee 4-roll cushion	1-3/16"	1-7/16"	1-3/4"	36	20-22
M	M 1"	55	—	1-9/16"	1-1/2"	1-11/16"	48	24.8 Max.
P	SLM & LM 1"	70	Ideal	1-1/4"	1-7/16"	1-5/8"	10	15
R	M 1-1/16"	52	4-roll cushion	1-5/16"	1-7/16"	1-3/4"	36	2.9*
W	SM 1-1/32"	60	4-roll metallic	1-5/16"	1-7/16"	1-9/16"	64	20 (br.) 18 (fin.)
AA	SLM 1"	65	Ideal rolls on Saco-Pettee	1-5/16"	1-1/2"	1-14/16"	48	23.3

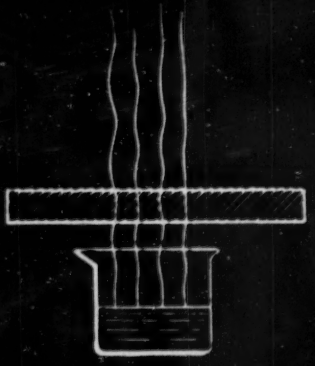
*Uster integrated reading.



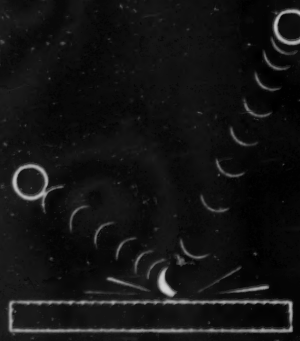
LIGHT WEIGHT



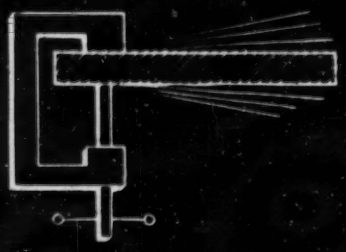
UNUSUAL STRENGTH



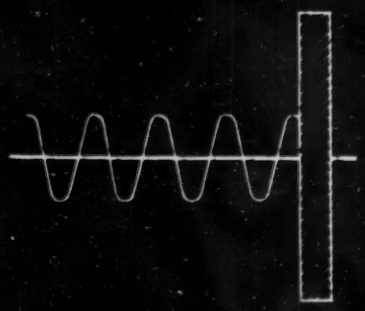
RESISTANCE TO CORROSION



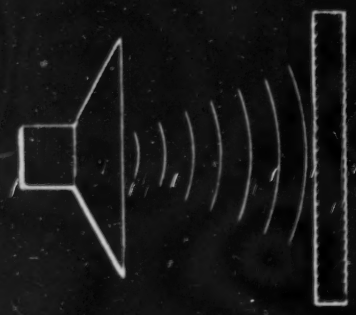
RESISTANCE TO IMPACT



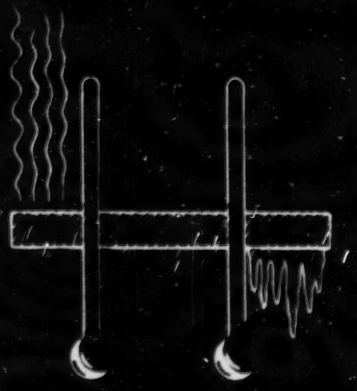
WITHSTANDS VIBRATION



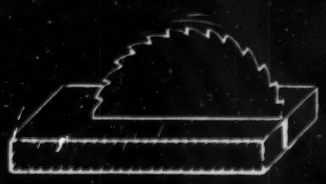
GOOD INSULATOR



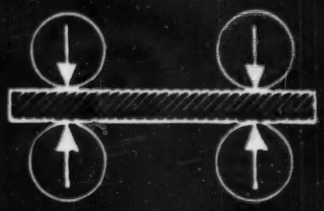
REDUCES NOISE



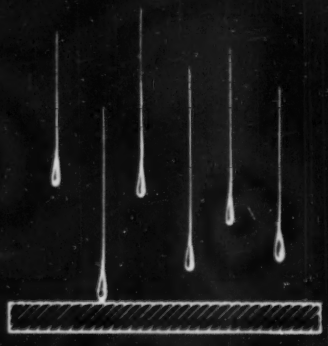
RESISTANCE TO TEMPERATURE EXTREMES



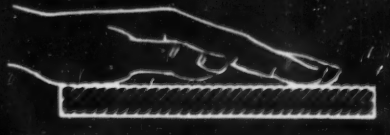
FABRICATES EASILY, ACCURATELY



RESISTANCE TO COMPRESSION



RESISTANCE TO MOISTURE



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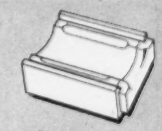

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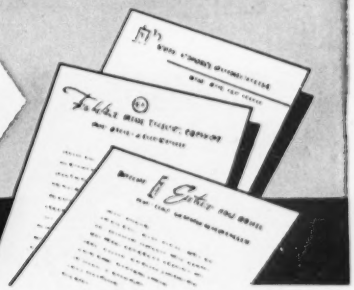


Write to the Editors!

Readers are invited to make use of this section for further discussion of published articles, or for discussion of problems arising in the plant. Names will not be used without permission. Payment is made for practical articles or for letters containing manufacturing information.

Address: Editor "Textile Industries," 806 Peachtree St., N. E., Atlanta, Ga.

Modernize Those Solid - Line Hosiery Seaming Tables

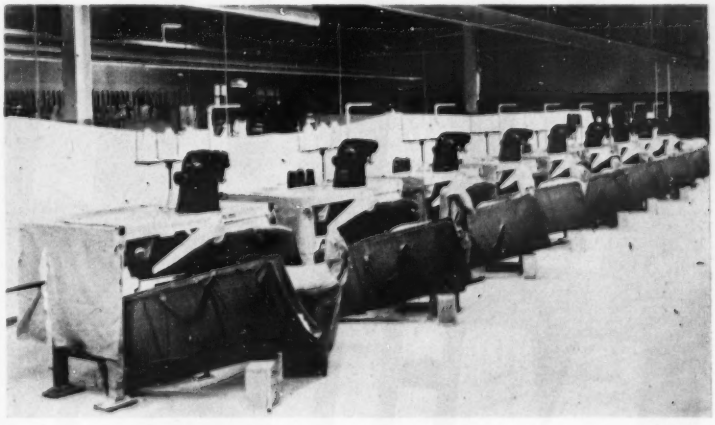
EDITOR TEXTILE INDUSTRIES:

In trying to keep abreast of the rapid advances that have been made in methods of handling hosiery while seaming, we were considerably hampered by the lack of flexibility in our continuous-row seaming tables. We, like so many other hosiery mills, had purchased solid-line tables a few years ago.

Each table consisted of a number of 42″ sections complete as a unit, having individual motors and accessories. However, in each instance where the units joined, only one table leg supported two table ends and made it impractical to separate them. With the innovation of seamer stocking chutes, seamer stocking troughs for holding untied work about to be seamed, and other auxiliaries, there was not sufficient room for the installation of these labor saving devices on any of the tables.

After some consideration, we were able to purchase some second-hand tables and used the extra legs to make individual units for each seaming machine. We allowed 14 inches between each table top, which was 42″ long, giving each seaming space a distance of 56″. This gives ample room for the installation of any modern devices used for increasing seaming efficiency.

The accompanying illustration shows one of our lines of seaming tables complete with all desirable



Hurry! Hurry! Hurry!

Kink Contest Ends Midnight, July 15, 1954
Send your entry now!
$100 will be awarded the winner.

Every kink, short-cut, time-saver, or quality improvement suggestion entered in the contest will be paid for immediately upon acceptance. The $100 award will be made as soon as all entries are judged.

The contest rules are simple:

► All contributions must be postmarked not later than midnight, July 15, 1954.

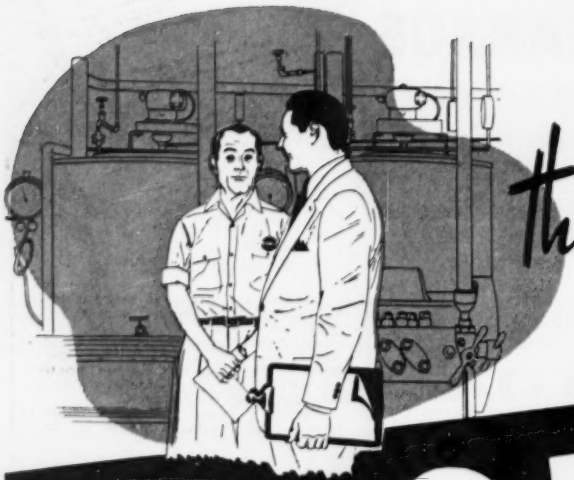
► No limit to the number of entries an individual may submit in any one contest.

► All entries paid for upon acceptance — no waiting. Extra payment for photographs that are usable. Extra consideration is also given kinks accompanied by legible pencil sketches or drawings.

► Entries must not have been published previously.

Send your contest entry to:

Editor TEXTILE INDUSTRIES, 806 Peachtree St., N. E., Atlanta 5, Georgia.



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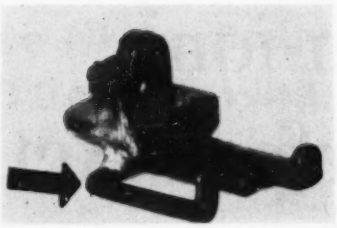
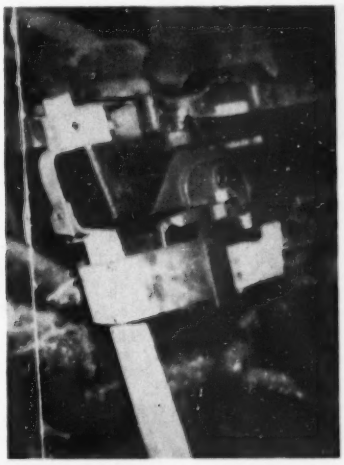
features. Directly back of the machine is the rod for holding unseamed stockings; in front of the seaming machine and attached to the table front is the trough for holding unseamed stockings; on the seamer's left is shown the receiving tray in a desirable elevated position; directly above the tray is the stainless steel stocking chute for guiding the stocking into the tray as it is seamed; in the end of the table and underneath, space is available for the installation of a drawer for the operator's convenience. The system is efficient and neat, and the owners and operators are pleased with the arrangement.

CONTRIBUTOR No. 8652

Make This Double-Leg Check Bracket





EDITOR TEXTILE INDUSTRIES:

When we purchased our new XD looms and saw the advantage of the double leg on the check, we immediately applied the idea to our modified D looms.

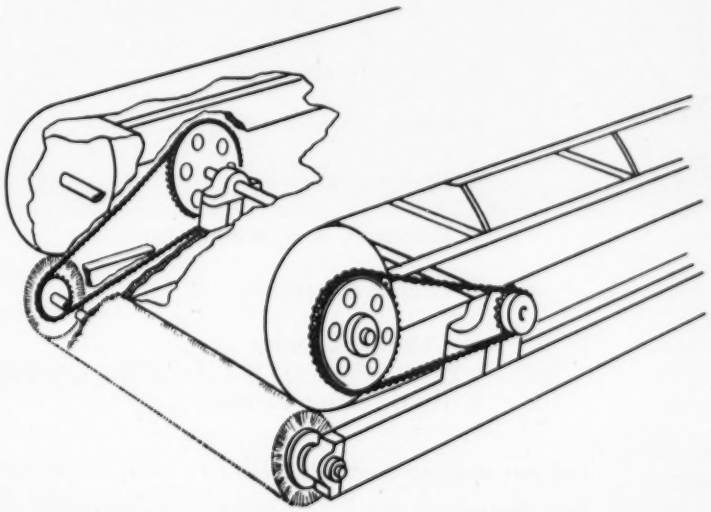
Our modified D looms slammed a lot because of difficulty in keeping the check straps adjusted. The old check brackets were used with one solid leg and one movable leg for adjustments. With this arrangement the strap had to be kept fairly taut, and as it wore and became more pliable, it dropped off of the stationary leg and caused the shuttle to rebound and slam or change wrong. The amount of friction kept on the straps made them wear rapidly, and they needed constant adjustment.

In changing to the double leg on the check we changed the magazine end by removing the giveway and cutting off the solid leg and also the bolt bracket for friction adjustment. Then we made an extra leg from a piece of ½" round stock and welded both legs to the giveway an equal distance from each other, as shown in the accompanying illustration.

On the plain end the job was simpler, and we merely took off the bracket and welded an extra leg to it (see illustrations). The advantages of the new arrangement were immediately evident. For one thing, the fixers work sheet showed few calls for slamming; also, shuttles lasted longer, and there was less quill breakage. The life of the check strap was more than doubled. The general efficiency of the looms increased about two per cent because looms were not stopped so much, and fixers had more time to keep them in shape. Most important; quality showed a marked improvement.

CONTRIBUTOR No. 8673

Easy-to-Install Conveyor Cleaner



This drawing shows a conveyor cleaner drive arrangement that can be accomplished by tapping the conveyor head pulley for power.

The brush supporting mechanism pivots on the countershaft that is also used for a multiplication of speed. Through the selection of proper pulleys in conjunction with this countershaft, any rotational speed of the brush is possible. Efficient conveyor cleaning cannot be achieved by having less than a 4-1 ratio of the peripheral speed of the brush to that of the conveyor.—*Fuller Brush Co.*

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Ready to give you on-the-job service ...

Mill-Made Slide Rule Shows Operatives Their Roving Efficiency

EDITOR TEXTILE INDUSTRIES:

Recently I made a slide chart which helps considerably in our mill to show the operatives their daily production and approximate efficiency. It is to be used for roving frames only, 10 x 5 and 8 x 4.

The chart is not as accurate as a slide rule, and in some instances the error may go up to 1%, but it indicates in a few seconds the approximate efficiency.

The procedure to figure out the possible production per frame per eight hours is as follows:

Set the proper number of spindles per frame opposite the correct rpm of the front roll. Then read the answer opposite 100% in the column "Hanks/frame/8 hours."

Without moving the sliding part of the rule, choose the number that represents the actual number hanks per frame per eight hours; opposite this number the per cent efficiency appears.

Example: Suppose that an 8 x 4 roving frame has 84 spindles. The speed of the front roll is 298 rpm. If the hank counter indicates 12 hanks per spindle at the end of the shift (eight hours), what is the % of efficiency?

Set 84 (the number of spindles) opposite 298 rpm and read the answer in the column titled hanks per frame per eight hours. In this instance the production figure at 100% is 1714 hanks. The actual number of hanks is: 84 x 12=1008 hanks. The efficiency opposite 1008 is approximately 58.2%.

CONTRIBUTOR No. 8675

Control of Size Pick-Up Discussed

EDITOR TEXTILE INDUSTRIES:

We are readers and subscribers to TEXTILE INDUSTRIES, and in seeking articles on cotton yarn sizing we found: "Controlling Size Pick-Up on Cotton Yarns," by E. M. Hartgrove, Jr., in the April (1951) issue. We now have a viscosity cup, and we are satisfied with it. However, we should like to have more explanation on some points.

What is the correct viscosity and size pick-up for a fabric in Egyptian cotton with 120 warp yarns per inch and 66 filling yarns per inch, using 36s and 37s combed yarns? Also, what specifications for sizing would be correct for the same fabric made of American cotton?

We are using the following formula for the fabric made of Egyptian cotton:

104 gallons of water
100 lb potato starch
2 lb softener

The mixture is cooked in an autoclave and steam is stopped at 230 F. We wait 30 to 35 minutes and then decrease the pressure in the autoclave until it equals the atmospheric pressure (at this point the temperature is 212 F).

Temperature of the storage kettle is 194 F; size box, 176 F.

Viscosity of size in the size box is 88 to 90 centipoises; slasher speed is 18 yards per minute; steam pressure in the cylindrical dryer, 23 psi (our slashers have only one cylindrical dryer); size pick-up is 11 to 12% of the 100% dried unsized yarn weight.

We have observed excessive shedding on the separation rods of the slashers, and on the loom there was bad fiber lay on the yarns, and the yarn was too stiff.

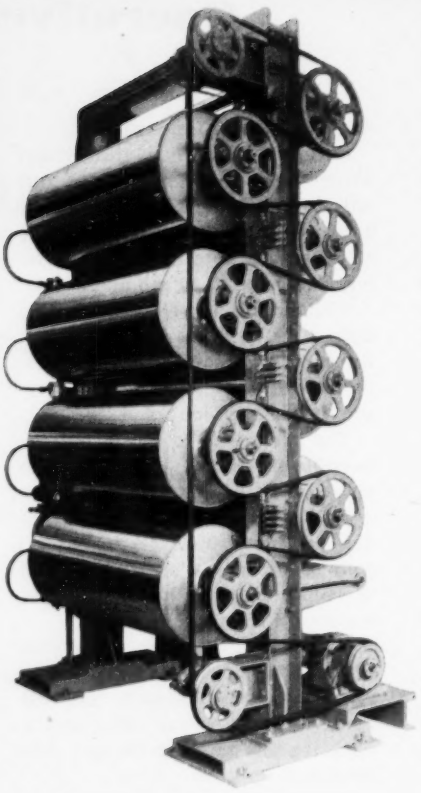
The elasticity of unsized yarn is 5.3%; breaking strength, .575 lb. The elasticity of sized yarn is 3.3%; breaking strength, .663 lb. Elongation on the slasher is 1.25%. What do you think of these data?

What viscosity and size pick-up should we have for a plain weave cloth made of 18s yarn 76x76?

What is the minimum per cent of

(Continued on page 135)

They were the Hit



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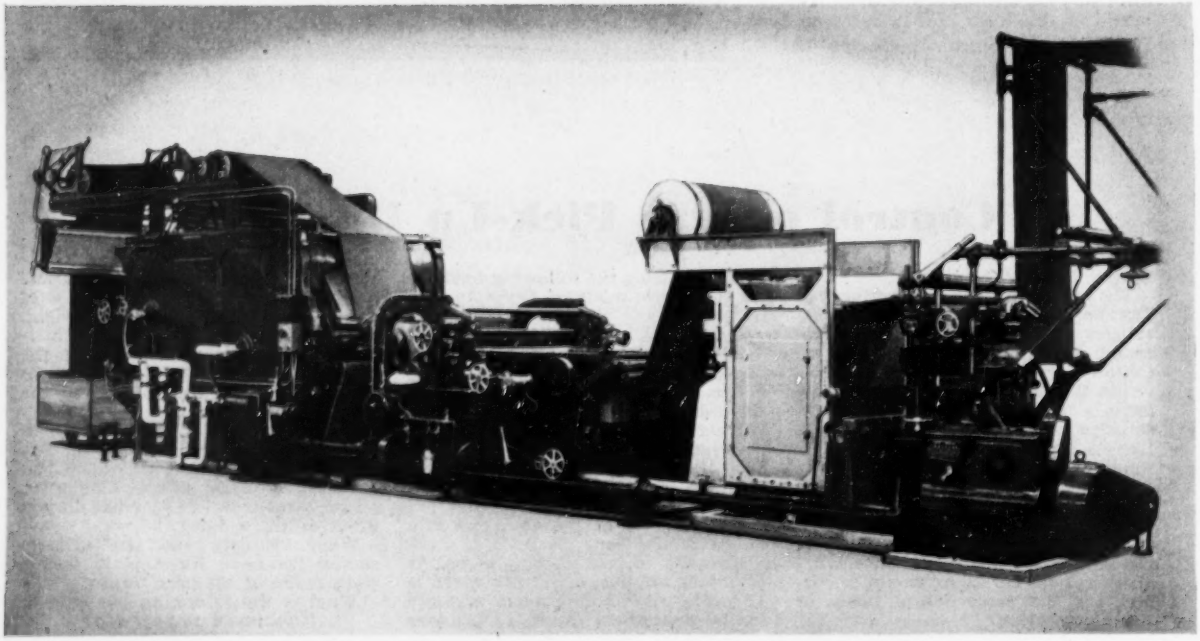
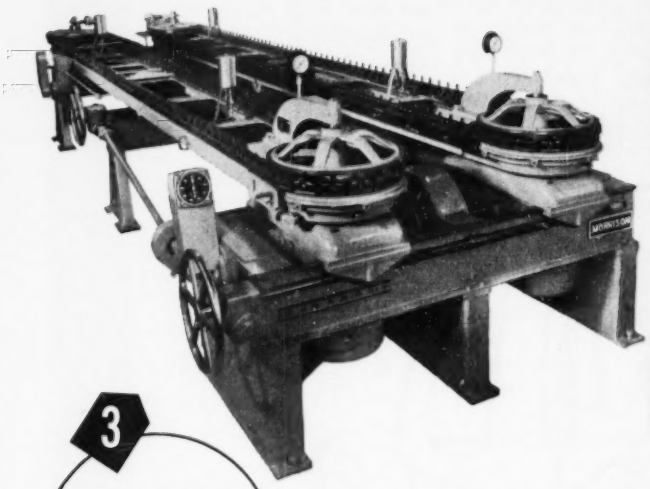


of the ATLANTIC CITY SHOW!



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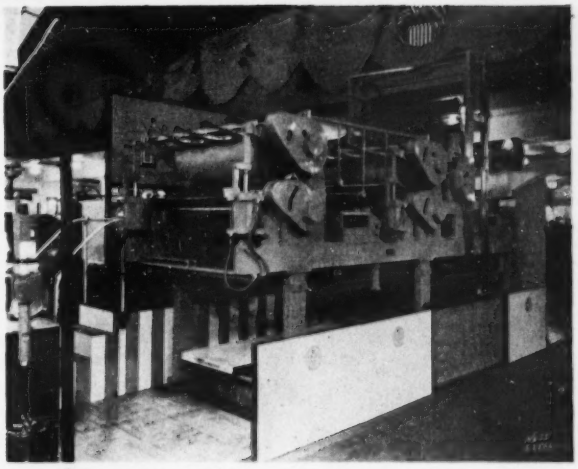
Modernized Tenter, featuring new (novel type) easing arrangement and clips (patent applied for).

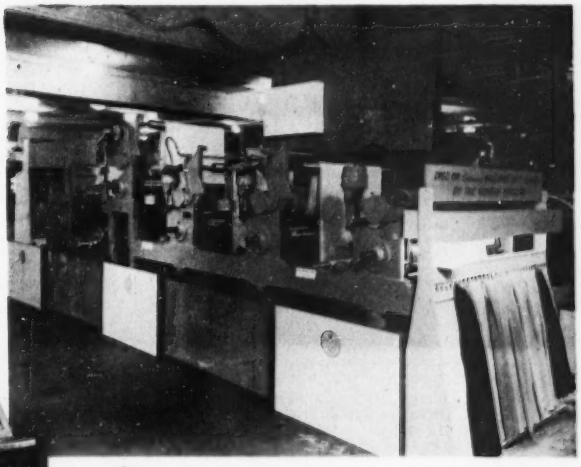


5

William's Continuous Fiber Processing Machine for processing certain stocks using direct colors on a single unit.

Stainless Steel High Speed Tight Strand Washer with 4-ton pneumatic nip.

4



6

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Discussion of Sizing

(Continued from page 131

elasticity sized yarns should have?

What is a good procedure to determine a good formula for sizing warp-dyed yarns that possess almost 90% moisture?

What do you think of the following procedure which is our way of measuring the per cent of size pick-up in sized yarns?

a. Weigh 200 yds of completely dry sized yarns.

b. Put the sized yarns in boiling water for 20 minutes.

c. Weigh the boiled yarns after drying them.

d and e. Do the same thing for the unsized yarn to measure the quantity of wax.

The following formula gives us the per cent of size pick-up:

$$\frac{(a) - (c)}{(a)} \times 100 - \frac{(d) - (e)}{(d)} \times 100$$

Do you have a better process?

Do softeners diminish shedding and improve fiber lay?

What is the name of an up-to-date book on cotton sizing?

CONTRIBUTOR No. 8667
(France)

EDITOR TEXTILE INDUSTRIES:

On this cloth, 120x66 with 36s warp yarns and 37s filling, we would recommend sizing to give 13 - 15% size in the warp yarns. We believe his present formula is much too light—he will have to use a size containing 16 - 18 oz of starch per finished gallon in order to get the desired amount of size on the yarn.

To obtain this concentration, it will be necessary to measure the gallons of finished size after cooking one of the batches, since the amount of moisture condensed from the steam will vary with the type of cooking apparatus, time of cooking, steam quality, etc. Once this has been determined, the amount of water required at the beginning of the batch can be set and held constant, with occasional checks to be certain that the condensate amounts do not vary. (We are assuming that he is cooking with an open steam coil.)

Offhand, we would say that the amount of "softener" used is too low, but this cannot be determined simply by looking at a formula. From 4 - 7% of *actual fats* (or other softeners or lubricants) are normally used, based on the weight of the starch. If the size compound contains 50% of softeners and lubricants, then 8 - 14% of the compound would be required. This amount will vary, dependent on the characteristics of the softener, the requirements of the weave, and the yarn properties.

If the mill is having shedding, poor fiber lay, and matting in the drop wires or clinging of yarns in the shed, more size is needed than now applied. We would recommend going as high as 15% to try to correct this. On the other hand, if the yarns are not matting, and the shed is opening clean, but too many breaks are being obtained from gouts and knots, more softener or a less concentrated size is needed. These are questions that have to be determined in the individual mill, and no general formula can be given which will apply to all cases.

With reference to the best viscosity, we have found that good sizing is obtained in the neighborhood of from 100 to 200 centipoises. We would like to warn that the viscosity cup mentioned will be accurate from an absolute standpoint only if it is calibrated throughout its range against an instrument known to give true readings. Without this the cup is quite valuable for controlling uniformity, but whether it will give a true measure of centipoises without calibration is doubtful.

In any event, if the size is too thick for proper handling in the size box, it may be thinned by addition of from three to six ounces of chlorsulfonamides or sodium perborate per hundred pounds of starch, added to the mix before cooking starts. If there is any doubt, these points might be checked: too heavy a viscosity will give excessive hard size lumps, and after the slasher has been stopped, will cause streaks across the warps on starting up again. Also, there will be a tendency for the size to gel on the squeeze rolls or on the warp at the roll nip, when the slasher is stopped.

The cooking procedure sounds satisfactory. But the temperature in the size box is too low. It is true that potato starch does not have the tendency to retrograde or gel at as high a temperature as does corn starch, but even so, better wetting, penetration, and sizing will be had if the size is kept boiling in the box. This gives accurate temperature control, as the boiling point remains constant, resulting in better uniformity in addition to the other advantages. One should only be careful not to boil the size so vigorously that it splashes. The possibly higher rate of evaporation at the higher temperatures is made up for by increased steam condensation at the higher rate of steam usage, so that there is no net loss of water in the size or increase in concentration. Again we are assuming that he has open coils in his size box. If he does not have them, he should.

Storage temperature is correct.

Steam pressure at 23 lb per square inch is about three or four times as high as we use in the U. S. A. I certainly hope his cylinder is stronger than our average cylinder, or that he carries adequate insurance! We have known them to blow at 15 lb.

We believe that the elongation is too low on the sized yarns, although without knowing the whole story it is difficult to judge. We normally like to see at least 4 - 4.5% elongation in sized yarns. Perhaps the type of yarn, or the twist is responsible for the low elongation. Or perhaps he is not using the proper softener, or not enough softener to plasticize the starch film. Or perhaps he is overdrying the yarns on the slasher, thus losing the natural elasticity

Current kink contest closes July 15, 1954. See page 127 for details.

of the size film. The yarns should come off the slasher with 7 - 8% moisture. Below 5%, the yarns suffer damage from baking (actually a "toasting" process) and the size film loses permanently its flexibility.

The questioner asks what would be recommended for Egyptian and for American cotton. We would say that the origin is unimportant. We have fine-fibered long staple cotton similar to Egyptian, and this would require the same size as the Egyptian. For shorter fibered, coarser cottons, a more concentrated size might be needed, but rather than judging from this point, we would judge by observing the loom operation and making the proper corrections, as mentioned.

The 76x76 with 18s yarns is a tough weave. We feel that the same formula as used above will be applicable, and the same remarks. Probably a little lower pick-up would be required, say around 12 - 13%. But these heavier yarns would pick up less size from the same formula than would the 36s mentioned above, so that the one formula should be satisfactory for both warps.

There is no set minimum figure for elasticity. With proper loom settings, less elastic yarns can be run. Normally, we find that weaving is best if elongation at the break is kept to 4% or above.

We assume that wet beam-dyed warps are referred to here. If possible, a couple of small dry cans should be installed between the creel and the size box to cut down the moisture content. The size formula should be more concentrated for such warps than for ordinary warps, and a thin-boiling starch will be required, or at least the use of a starch thinner will be necessary with an unmodified starch. The only proper way to set the formula is to keep increasing the concentration until the desired per cent of added size is attained.

Drying is highly advisable because the moisture in the yarns prevents proper penetration and adhesion of the size.

If wet warps must be run, the size in the box should be dumped every two or three hours, as it is continually being diluted with the water from the warps. Or a continual overflow can be used, and will probably give more uniform results than irregular dumping. Keep as little size in the box as will be consistent with good sizing application, so that it can be used before it becomes diluted.

Regarding the procedure for analytical desizing, we assume that they are using as a sample a 200 yard length of one yarn. If the squeeze roll or the blanket is not perfectly even, this yarn may not be representative of the whole width of the warp. We prefer to take as a sample about a half-yard to a yard across the warp when doffing (being certain that this sample is not taken from a part of the warp going through the slasher at creep speed).

Secondly, a water boil does not generally remove all the starch. An enzyme or an acid will be necessary. We would recommend the method given in our book on "Cotton Slashing," and will be glad to send a reprint of this method if they wish a copy.

(The desized yarns may be tested with a dilute, pale yellow solution of iodine. If they turn strongly blue, starch is still on the yarn. Usually, after a good desize, a very pale blue will still be present. The last trace is difficult to remove, but this will be less than 0.1% of starch.)

Yes, the proper size compounds will so modify the starch as to reduce shedding and improve fiber lay.

A recent book on warp sizing is "Cotton Slashing" by Seydel, available through W. R. C. Smith Publishing Co., 806 Peachtree St., Atlanta, Ga., USA.

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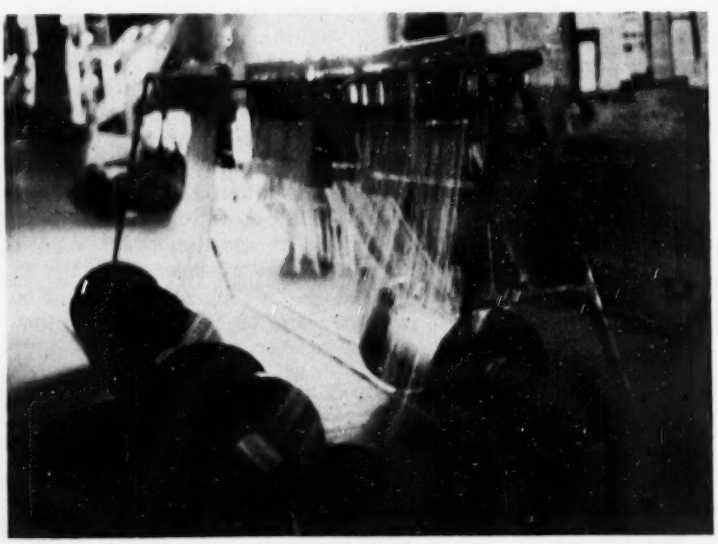
Seydel-Woolley & Co.
Atlanta, Ga.

Warp Storage Rack Is Easily Made

EDITOR TEXTILE INDUSTRIES:

We have devised a useful kink for putting drawn glass warps on the floor so they will remain undamaged. These warps cannot be rolled up and tied to the harnesses in the usual way because the ends

(Continued on page 141)



TIPS ON REDUCING NEPS MADE ON CARDS

1. Give the cards a chance. Make the best picker laps possible as the first step in your campaign to reduce neps.

2. The cards must be in good mechanical condition all over, and must be capable of accurate setting to gauge at every setting point.

3. The wire in flats, cylinder fillets and doffer fillets should be long enough to do good carding. Grinding should be done often enough to retain carding point. It has been definitely proven that fillet and flat wire measuring close to standard (3/8" crown to point) will reflect in better quality work, with lower nep count.

4. All cylinder and doffer clothing should be free of oil and bruises (or jams) and should be tight. Loose fillets cannot be set to gauge.

5. The wire in flat clothing should be as near full length (3/8" crown to point) as possible. Where flat wire has been wedge ground (lower on one end), more nep will be found in web produced on side of card having shorter flat wire.

6. Check flats carefully for shedding; soft or spongy ends, caused by rubbing; and foundation stripped off by flat cleaning brush. All such sets of flats should be replaced.

7. The lickerin should be full size, with unworn shafts and shrouds. Wire should be sharp and free of bruises and other defects. Whenever possible, insist on five points per inch wire, wound eight strands per inch.

8. Screens and plates are major factors in the control of draft, and draft control is essential to good carding. Screens and plates that cannot be set to gauge should be reworked or replaced.

9. Correct setting of selvage guides on feed plates, with relation to width of lap, is very important.

10. A stripping schedule, based on stock processed and pounds per hour produced, should be adopted and diligently followed. From a quality standpoint, it is better to strip too often than to go too long between strippings.

11. Many tests conducted in various mills have definitely proven the value of grinding a card all over and resetting all setting points after grinding. By adopting such a procedure, better quality with less nep is the usual result.

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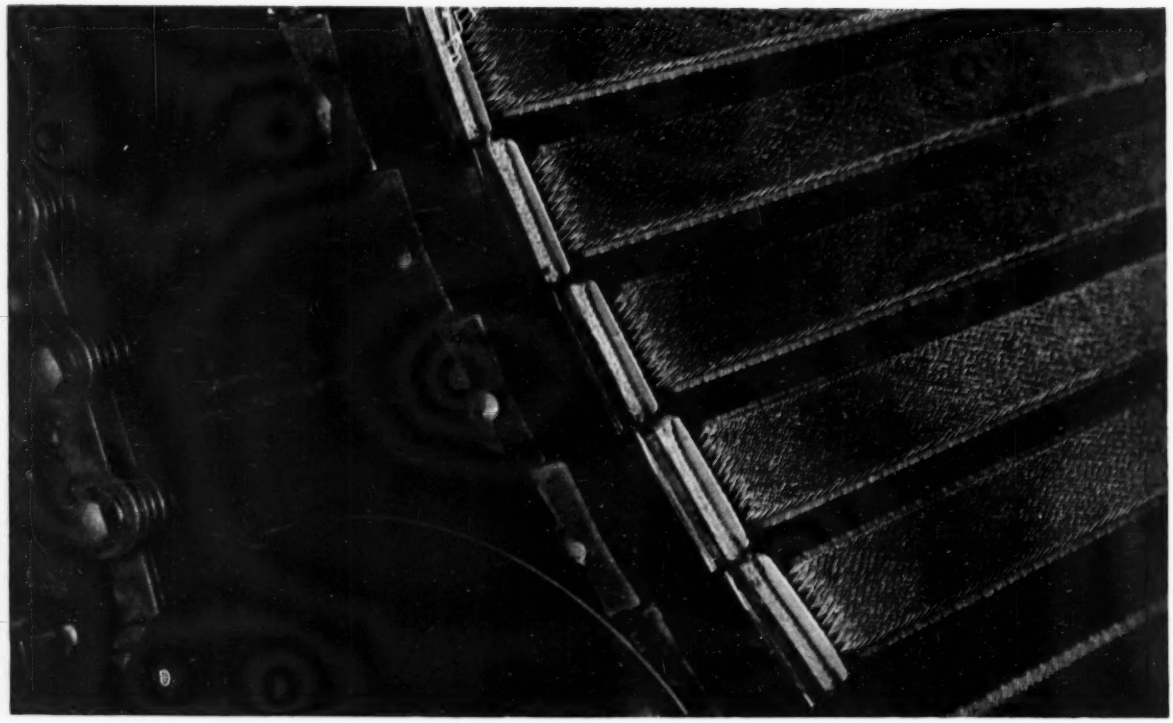
please turn the page ➧



Yes, We Reclothe FLATS

1. For reclothing flats and for other services, we maintain repair shops at Charlotte, N. C., Greenville, S. C., Atlanta, Ga., Dallas, Texas (Textile Supply Co.), Philadelphia, Pa., and Fall River, Massachusetts.
2. While reclothing your flats we can, if you wish, loan you spare sets which will be remilled on the ends, pre-straightened, reclothed with wire desired, ground to gauge, packed in sturdy, specially designed wooden cases and shipped as specified. Just let us know the make and width of your cards, number of flats per set, count of wire and number of sets required. Old flats, in usable condition, will be accepted in exchange for the loaned flats, when the program is completed.
3. All flats shipped to Ashworth for reclothing are thoroughly cleaned after old clothing is removed. The screw holes are checked for condition and depth of thread. Corrections are made when necessary.
4. Occasionally, accidents occur on cards, resulting in one or more broken flats in a set which has good clothing. Such broken flats can be quickly replaced by sending to Ashworth a good flat from the set, with instructions to furnish, clothe and grind flats to this sample flat. Special attention is given such emergency repairs in all of our shops.
5. For those mills interested in having flats reclothed in their own plants, portable equipment is available, along with a competent man to do the work. Details on request.

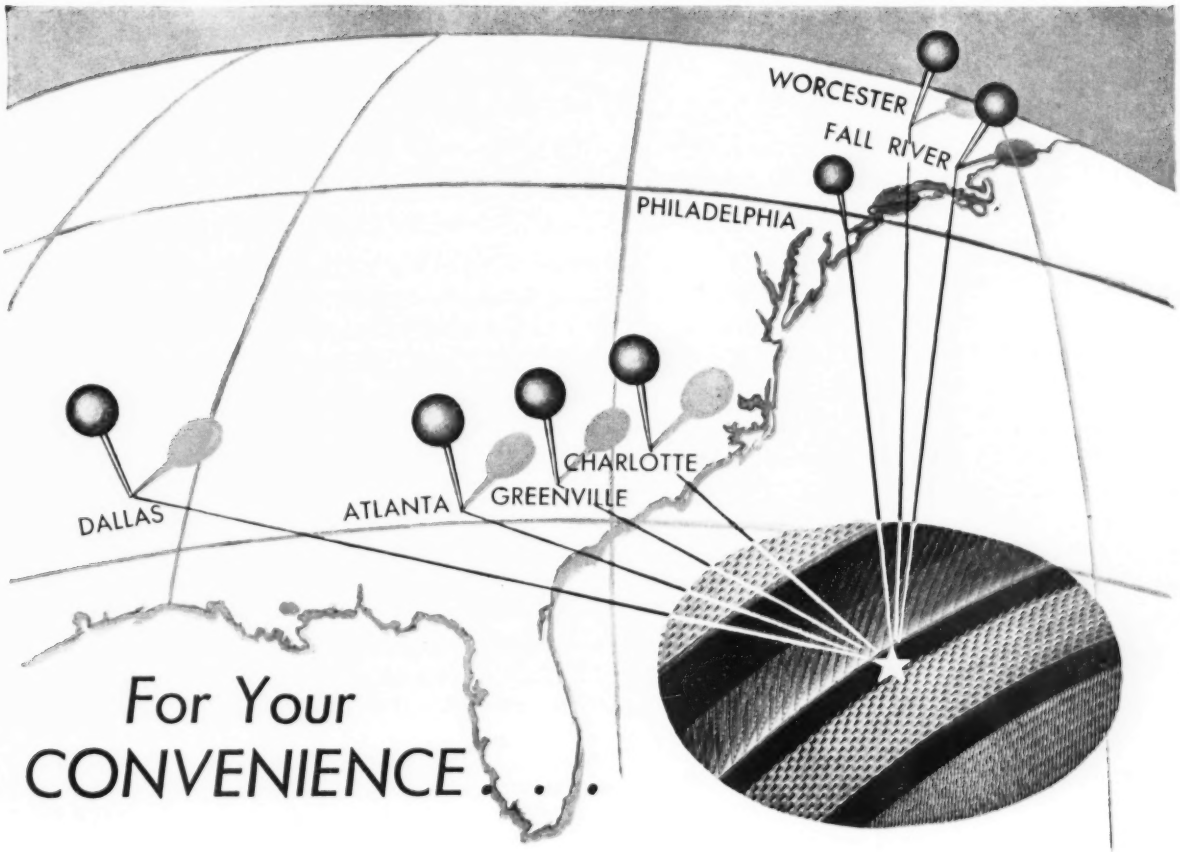
OTHER ASHWORTH SERVICES

Rewinding lickerins • Milling flat ends

Rewinding workers and strippers

Complete surveys of cards and clothing

NO CARD CLOTHING IS ANY BETTER THAN THE SERVICE BEHIND IT



For Your CONVENIENCE . . .

3 FACTORIES • 6 REPAIR SHOPS • 7 DISTRIBUTING POINTS

Three factories (Greenville, Philadelphia and Fall River), six repair shops (Greenville, Charlotte, Atlanta, Dallas (Textile Supply Co.), Philadelphia and Fall River) and seven distributing points (Greenville, Charlotte, Atlanta, Dallas, Philadelphia, Worcester and Fall River) make Ashworth Card Clothing and Ashworth Service *conveniently* yours.

Nearly a century of manufacturing experience makes Ashworth Card Clothing *dependably* yours.

PRODUCTS AND SERVICES

Card Clothing for Cotton, Wool, Worsted, Silk, Rayon and Asbestos Cards and for All Types of Napping Machinery, Brusher Clothing and Card Clothing for Special Purposes. Lickerin Wire and Garnet Wire. Sole Distributors for Platt's Metallic Wire. Lickerins and Top Flats Reclothed.

For Prompt Service,

CALL ASHWORTH BROS., INC.

Greenville, S. C.	2-3631
Charlotte, N. C.	5-6069
Atlanta, Ga.	Main 0501
Dallas, Tex. (Textile Supply Co.)	Riverside 4729
Philadelphia, Pa.	Michigan 4-3490
Worcester, Mass.	3-4430
Fall River, Mass.	5-7886
Los Angeles, Calif. (E. G. Paules, Rep.)	Axminister 3-6265

please turn the page ➧

Ashworth CARD CLOTHING

Ashworth
CARD CLOTHING

It's "Plough Ground"

All Ashworth cylinder and doffer fillets for processing cotton and many of the staple synthetic fibers are "plough ground". Plough grinding consists of running a "plough", with a thin grinding disc directly above it, between each row of fillet wire. Thus the wires or teeth are gradually tapered above the knee to a working point on each side. The front and back of the wire are not ground, so that strength in the carding direction is not sacrificed.

The advantages of plough grinding are as follows:—

1. The tapered points facilitate the untangling of the fibers and help to prevent and remove neps.

2. Plough ground wire strips more easily. Make your own test. Wrap yarn on the shaft of a pencil and attempt to remove it. The yarn piles up just as the fibers pile up on non-tapered wire. Make the same test on a tapered shaft and notice how easily the yarn comes off.

3. Plough ground card clothing retards loading, keeping the stock above the knee and in a carding position.

If you would like to see our plough grinding operation, visit us at Fall River, Mass. or Greenville, S. C.

PRODUCTS AND SERVICES

Card Clothing for Cotton, Wool, Worsted, Silk, Rayon and Asbestos Cards and for All Types of Napping Machinery, Brusher Clothing and Card Clothing for Special Purposes. Lickerin Wire and Garnet Wire. Sole Distributors for Platt's Metallic Wire. Lickerins and Top Flats Reclothed.

ASHWORTH BROS., INC.
American Card Clothing Co. (Woolen Division)

Fall River*†‡ Worcester‡ Philadelphia*†‡ Atlanta†‡
Greenville*†‡ Charlotte†‡ Dallas†‡ (Textile Supply Co.)

*Factory †Repair Shop ‡Distributing Point

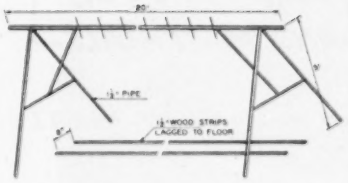
3 Factories — 6 Repair Shops — 7 Distributing Points

may be easily cut. A slight pull on the ends against the reed may cause several hundred ends to drop out.

For many samples, warps are made up, put in the looms, the necessary yardage run off, and then the warps are stored for future use.

The storage racks we are now using have proved satisfactory and do not take up much space. The rack will hold eight drawn warps at a time and is made from 1½" pipe, as shown in the accompanying illustration.

Two 1½" strips of wood are placed 8" apart and nailed to the floor to serve as stops to prevent



the beams from turning or rolling. Pins in the horizontal member of the stand are made of ¼" stock placed in holes in the pipe and then welded in place.

CONTRIBUTOR No. 8688

Try This Bracket for Spare Cones on Banner Machines

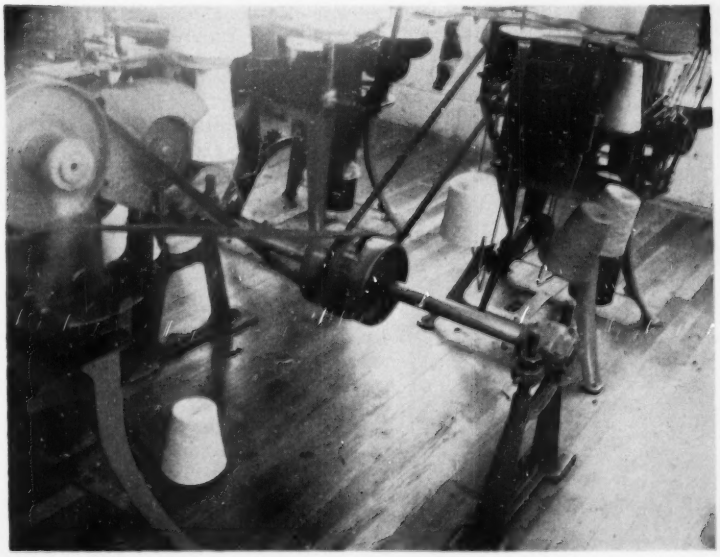
EDITOR TEXTILE INDUSTRIES:

The yarn supply on the lower brackets of the Model SCP-51 and SCOP Banner machines is difficult to tail onto a spare cone without placing the spare cone of yarn on the floor. It is usually necessary to place the spare cone of yarn under the machine (see cone at lower left in accompanying illustration).

This arrangement has its disadvantages in that the yarn often gets caught in the belts or winds around the shafts or pulleys, thus resulting in considerable waste. Also, the cones may get knocked over and become soiled.

Additional and inexpensive yarn holders may be easily made of 3/16" round stock. These holders may be placed on the original brackets, thereby providing a convenient place for the extra yarn to sit off the floor and away from shafts and pulleys (see cones on machine at right in accompanying illustration).

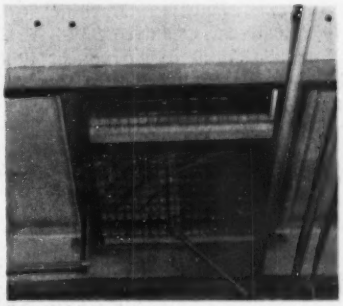
CONTRIBUTOR No. 8696



No Accidents With This Fan Guard

EDITOR TEXTILE INDUSTRIES:

We have devised an adequate method of guarding several overhead exhaust fans, thereby offering maximum protection to nearby employees (see accompanying illustration). The fans are installed in penthouses built for the purpose, and the exhaust openings in the mill roof vary from 4′ x 4′ to 4′ x 6′. Although the fans are built by a



reputable manufacturer, we have had several blades break loose during operation and fall through the roof openings — a dangerous occurrence.

A frame of 2" x 4" material was constructed underneath the penthouse, and a sliding door in one end may be used in servicing the fan. A heavy gauge welded wire was used to cover the framework and door. The illustration shows how the wire was clipped to neatly fit around existing conduit and sprinkler piping. The fan blades weigh several pounds, and without adequate guards they are definitely a hazard while in operation near anyone.

The entire cost of materials for the guard and framework was only five dollars. However, the protection afforded is worth many times the cost of the installation. We have won several state safety awards by adopting such safety measures.

CONTRIBUTOR No. 8671

NEW Equipment AND MATERIALS

Other items are described on pages 67, 69, and 71

Supreme SAAF-C Knitter

(Continued from page 71)

machine knitting mill."

This machine features a new "step design" yarn stand (patent pending) which greatly increases knitting efficiency and productivity. The yarn stand accommodates 128 cones and provides sufficient headroom for the knitter to work beneath it without stooping or bending. In addition, each cone is clearly visible and easily accessible.

Supreme Knitting Machine Co., 94-02 104th St., Ozone Park 16, N. Y.

For additional data, request item G-210, using Handy Return Card on page 176.

Loom Motor Designed for Longer Life

A new series of Life-Line loom motors, designed for longer life, additional cooling, and with stronger construction, is available.

Manufactured in ¾, 1, 1½, and 2-hp ratings at 1800 or 1200 rpm, 2 or 3 phase, these totally-enclosed non-ventilated motors have oversize bearings with a special grease to give longer motor life.

The finned construction of the cast iron end-brackets increases motor strength and reduces overall motor temperature. A heavy-duty rotor with a shrunk-fit flywheel provides the high inertia required to smooth out fluctuating loom loads.

Designed with sufficient overload capacity to break in new looms, these loom motors are available in either foot-mounted or three-point suspension mounted models. They may be obtained with either a conduit box or a multi-conductor squeeze connector.

Westinghouse Electric Corp., Box 2099, Pittsburgh 30, Pa.

For additional data, request item G-321, using Handy Return Card on page 176.

Aluminum-Steel Section Beam Withstands High Pressures, Is Easy to Repair

A new combination aluminum and steel section beam, designated Type A-32-N, is capable of withstanding loads imposed by nylon and other synthetic yarns.

A 30" beam subjected ten times to a 300,000-pound load showed no failure in either the head, the barrel or the assembly attaching head to barrel.

This beam has many desirable features. It is ready for use with both the Cocker and Reiner warpers, is available in 28", 30" and 32" head diameters, and in case of accidental damage the "bolted-on" type of construction facilitates easy repair and parts replacement without the necessity of returning the entire beam to the factory.

Briggs-Shaffner Co., Winston-Salem, N. C.

For additional data, request item G-119, using Handy Return Card on page 176.

Instrument Makes Easy Checking on Processes, Equipment, Personnel

A continuous check on process systems and equipment is provided by the Time-Recorder-Totalizer or the Time-Totalizer. Either one of these instruments simplifies the checking of any process, equipment, and operating personnel.

The Time-Recorder-Totalizer is ideal for use by anyone wanting to have an uninterrupted record of when and how his equipment is used. On a continuous tape, a permanent record shows chronologically when the process or equipment is on or off. The Time-Recorder-Totalizer highlights in bold relief defects in the process, equipment or automatic control adjustment used in the system.

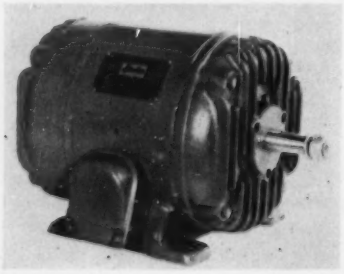
In addition to the tape recording, the total operating time is totalized automatically in a manner similar to the mileage meter of an automobile. The time totalizer serves as an important reference to determine when the system and its components need cleaning, repair, overhaul or replacement.

The Time-Totalizer can be mounted or connected to any electrically operated equipment. This precision instrument, like an adding machine, automatically totals the operating time of the equipment, providing a ready reference for determination of overall efficiency of production and equipment.

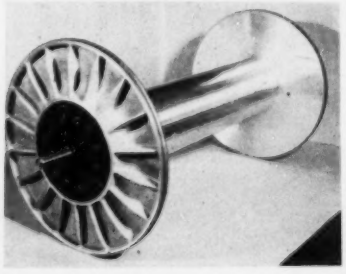
Heat-Timer Corp., 657 Broadway, New York 12, N. Y.

For additional data, request item G-229, using Handy Return Card on page 176.

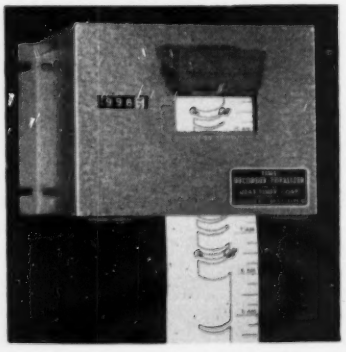
New Westinghouse loom motor.



Briggs-Shaffner's new section beam.



Heat-Timer Corp.'s Time-Recorder-Totalizer for processing systems.



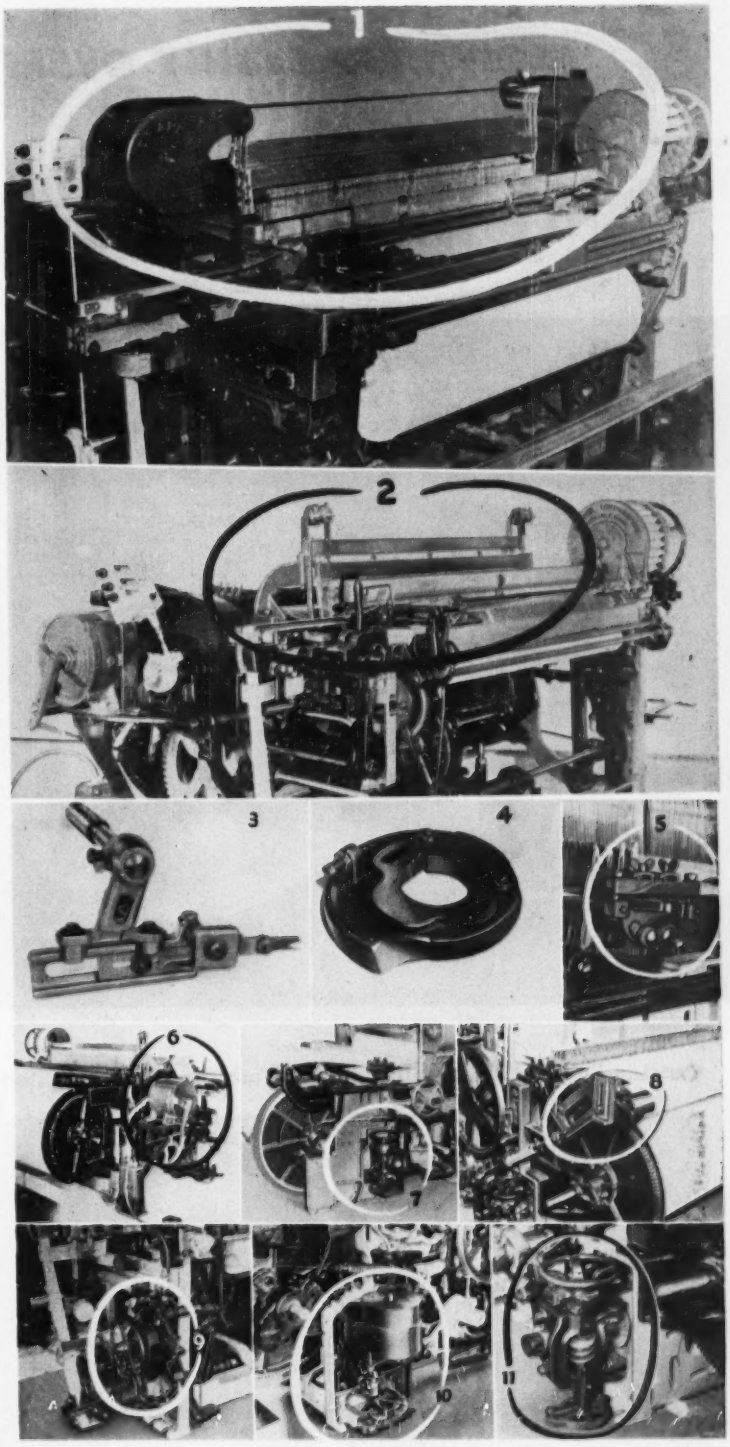
Loom Improvements by Draper

A brief description of recent developments for new and existing Draper looms is presented below, along with advantages which they offer. Numbers correspond to those on the accompanying photos.

1. The archless type clock spring top motion guarantees long, trouble-free service. Smooth easy action reduces wear on all related parts. Sheaves are of anti-friction type, and springs are of wide, flat design, allowing a greater distribution of metal, reducing spring failure to a minimum. Tension on all springs can be quickly and easily adjusted by rotating an adjusting nut. Archless feature provides lower loom silhouette, giving greater weave room visibility. Simplicity of design permits easier passage of air and humidity, and also contributes to overall loom cleanliness. Harness frames are connected to top motion strapping by new hook arrangement. Harness may now be raised by means of end bracing, rather than through wood frame. Smoother harness action and longer harness life can be assured.

2. The redesigned E Model loom features a new archless, adjustable harness motion. Archless construction provides advantages previously cited. New **underneath construction** provides positive harness pull down action. New harness leveling stud permits accurate adjustment to be made. New **yarn beam bearings** and frame changes permit use of 26" or 28" diameter yarn beam in the same positions. Yarn beam can be more easily placed on loom or taken off. A new **spring packed live frog** construction is designed to stop loom when either left hand or right hand dagger contacts frog, eliminating danger of a miss. The application of a special **¾ hp Draper-Diehl Power Transmitter** (see photo 6), similar in design to Transmitter used on X-series looms, gives smooth, quick starts and positive braking action. Its simplicity and compactness eliminate many conventional drive parts, reduce maintenance costs, and permit larger work assignments.

3. The redesigned Stafford thread cutter has fewer working parts, permitting standard settings and adjustments to be made faster and easier The new filling knife assembly cuts and holds yarn better, greatly reducing chance of drag-ins.



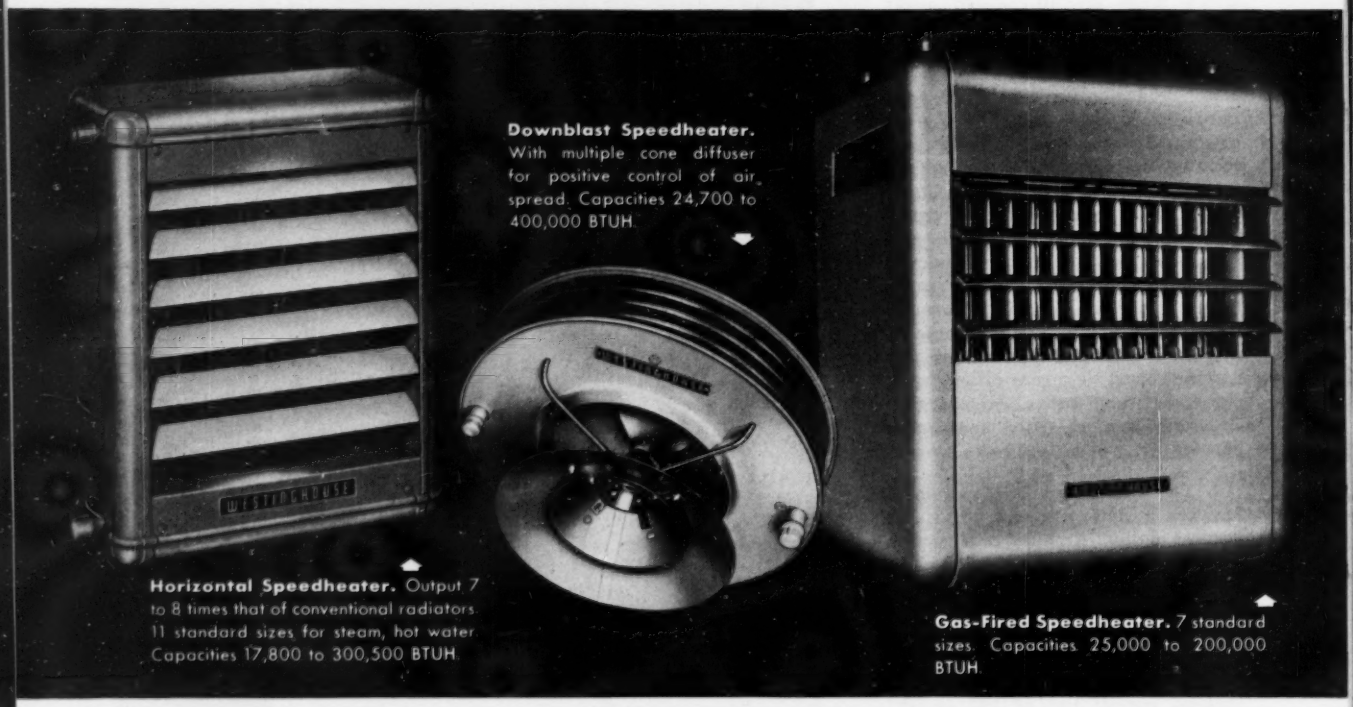
4. A one-piece pick cam and toe, flame hardened and contour milled, provides a more uniform picking surface on all toes. Fitting of toe and cam is eliminated. Uniformity of replacements and greater accuracy in setting can be maintained.

5. Adjustable electric stop motion bracket allows a greater clearance between electrodes and lease rods, thus reducing lint accumulation on stop motion parts.

6. ¾ hp Draper-Diehl Power Transmitter on redesigned E Model loom

FLOW HEAT EVENLY OVER LARGE AREAS . . .

Westinghouse Speedheaters®



Horizontal Speedheater. Output 7 to 8 times that of conventional radiators. 11 standard sizes for steam, hot water. Capacities 17,800 to 300,500 BTUH.

Downblast Speedheater. With multiple cone diffuser for positive control of air spread. Capacities 24,700 to 400,000 BTUH.

Gas-Fired Speedheater. 7 standard sizes. Capacities 25,000 to 200,000 BTUH.

Outstanding features assure quiet, reliable operation . . . easy installation:

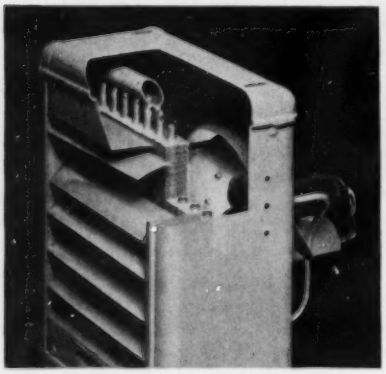
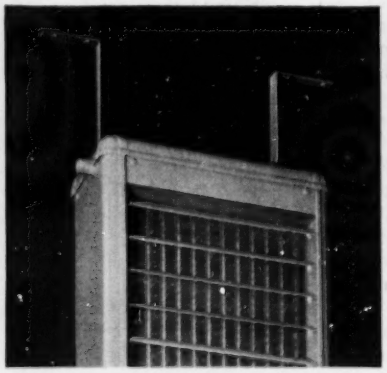
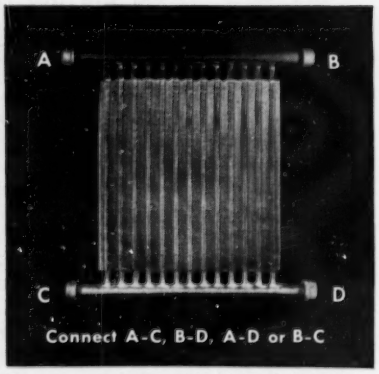


Plate fins cut noise, maintain uniform air flow, minimize clogging of coil with dirt and dust. Adjustable louvers spot or spread heat directly into work zone. Unit requires no warm-up — a flip of a switch generates *instant heat.*



Pliable steel hangers, a Westinghouse exclusive, simplify installation of Horizontal Speedheaters. Heavy-gauge welded steel casings, heavy seamless copper tubes, rugged motor and fan increase service life.



Four connection combinations further simplify installation of Westinghouse Horizontal Speedheaters . . . reduce piping costs . . . allow flexibility in installation to fit varied unit and piping locations.

Spread Instant Heat on Work Zones

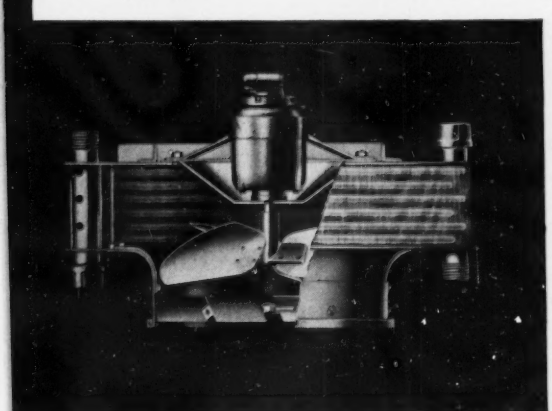
Modern-design Speedheaters slash fuel costs up to 25% when used as complete systems or supplements to existing central systems.

These three Westinghouse Speedheaters provide instant, low-cost heat—*where* and *when* you want it—for applications ranging from spotting heat into small areas, to spreading heat comfortably and efficiently over large work zones. Both dependable and attractive, they are ideal for stores, offices, factories, warehouses—anyplace, in fact, requiring quick, uniform heat at lowest cost.

Westinghouse Speedheaters go to work immediately. Their *instant heat* eliminates fuel loss . . . saves, as proved in installations across the country, up to 25 per cent in fuel costs over old-style heating systems. Available in sizes from 17,800 to 400,000 BTUH, these Speedheaters supplement your present central system for most effective heat coverage . . . or satisfy, through flexible unit selection and placement, your entire heating needs.

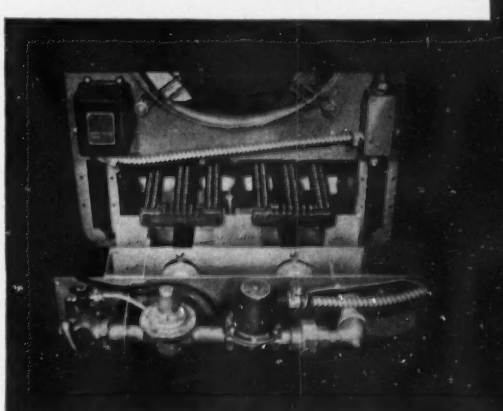
Check on these versatile units today. Call the Westinghouse-Sturtevant representative conveniently located in your area, or write Westinghouse Electric Corporation, Sturtevant Division, Boston 36, Mass.

For specifications, dimensions, performance data, send today for CATALOGS 1521 (Steam—Hot Water) and 1525 (Gas-Fired)



For buildings with high ceilings, Westinghouse Downblast Speedheaters are ideal. Powerful fans and directional vanes project heated air down to work levels, blanketing large areas with effective, economical heat even where equipment and partitions obstruct circulation.

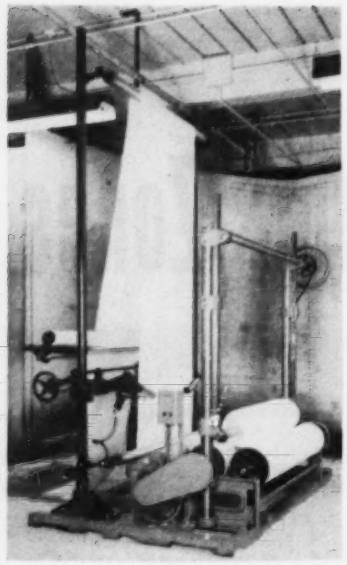
Fully automatic Gas-Fired Speedheaters eliminate need for central heating plants . . . run on low-cost natural, manufactured or LP gas. Units have seal of approval of AGA Testing Laboratories.



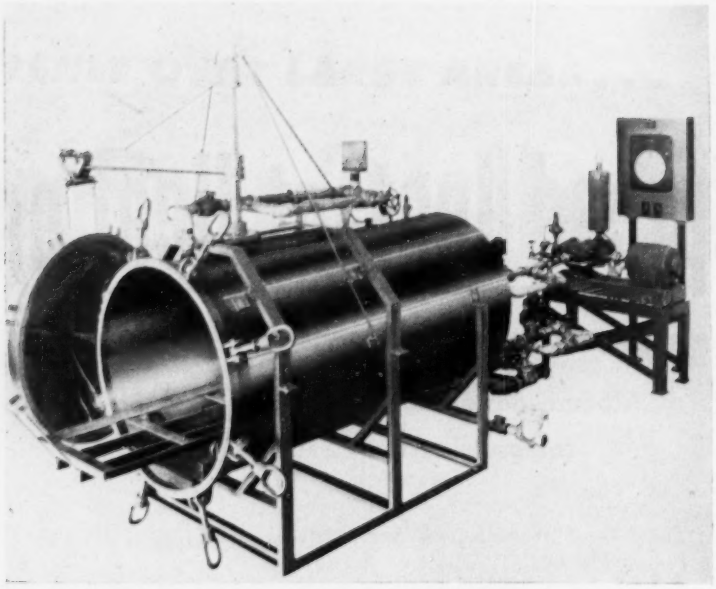
WESTINGHOUSE AIR HANDLING

YOU CAN BE SURE...IF IT'S Westinghouse

J-80407



Curtis & Marble Type 54 DS rolling machine.



"Hy-Vacuum"-pressure autoclave for setting yarns (Gaston County).

(see item No. 2 on page 143).

7. The #5 automatic Bartlett let-off, shown here on a 46" X-2 Model loom, with large friction provides better control of yarn on large beams and reduces much of "beat back" found with the use of heavy yarns.

8. The new drag roll bracket construction is arranged to give a level warp line and to permit the placement of a 32" diameter beam in the loom, without removing any drag roll or related parts.

9. With this **compound driven take-up,** the range of picks can be increased with a given pick wheel, 2, 3, or 4 picks per tooth of pick wheel. Range of picks can be decreased with a given pick wheel, ¼, ⅓, ½ picks per tooth of pick. Thus individual control of pick remains with weaver, for each tooth on pick wheel represents one pick in the cloth.

10. Compound driven automatic Bartlett let-off provides a wide range of picks with a single thread self-locking worm, which does not depend on a friction to hold the yarn beam back. Can be applied on XP and XD model looms. Good for fabrics such as taffeta, marquisette, or any other weave where unevenness or barre is a problem.

11. The new #1 automatic compound let-off combines the features of the regular let-off with an automatic compensating arrangement which allows the warp to maintain a constant tension from full to empty beam with no manual adjustments.

Other developments not illustrated are:

The 92-P high roll take-up featuring totally enclosed driving gears running in a bath of oil. Reduces number of gears involved by 13, thus lower maintenance and greater savings.

A new pivoting type binder for box looms permits much easier shuttle control. Settings and proper boxing of shuttle can be accomplished with little or no difficulty.

Draper Corp., Hopedale, Mass.

For additional data, request item G-360, using Handy Return Card on page 176; please specify item interested in.

Firm, Even Rolls of Cloth 48" in Diameter Made on this Machine

The Type 54 DS rolling machine for making up hard and even rolls of cloth embodies all the good points of the previous models and has these new features: rolling up drums 10" in diameter; rolls up to 48" in diameter can be made; any desired amount of pressure can be exerted on the cloth by racks that are easily raised or lowered by a handwheel.

Curtis & Marble Machine Co., 72 Cambridge St., Worcester, Mass.

For additional data, request item G-139, using Handy Return Card on page 176.

For Positive Shrinkage of Helanca and Other Yarns in Less Time

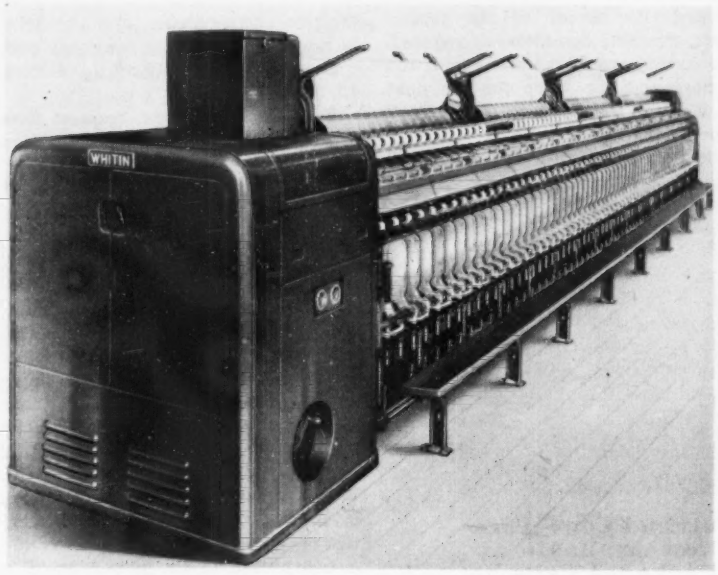
A new, controlled vacuum-pressure system for steam setting the twist in nylon "Helanca" yarns greatly reduces steam setting time.

The entire process can be completed in 30 minutes or less, depending on steam injection cycle required. However, the primary purpose of the new equipment is not to save time, but to improve quality. Positive shrinkage is obtained—yarn is shrunk and the twist is uniformly set from outside to the spool core.

Experimental projects now being conducted in leading textile mills indicate this new equipment has a place in other types of steam processing. Results in woolen and worsted mills may lead to the replacement of conventional steam box methods from the standpoint of quality alone, according to the manufacturer.

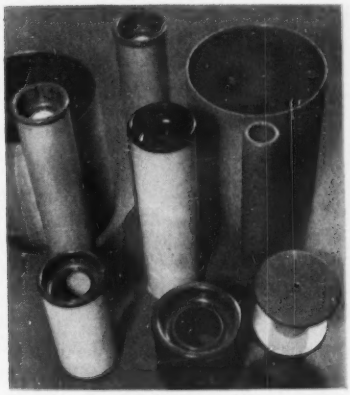
The process is fully automatic. Vacuum pump starts by means of a push button. 22" to 25" vacuum is produced in two to three minutes. Pump stops automatically. Steam is injected at controlled temperature for any desired time period and is expelled automatically. When processing is completed, vacuum relief valves open to restore atmospheric conditions inside the vessel.

This "Hy-Vacuum" - pressure autoclave is built to customer specifications, according to ASME standards. Vessels can be designed to fit into existing systems, using present pin



Improved version of the Whitin Model E wool spinning frame.

NEW Equipment AND MATERIALS



Some of Artmor Plastics' rewind caps and also some of the tubes for which caps are made.

racks and trucks. Also, the new machines are available for manual or completely automatic operation.

Gaston County Dyeing Machine Co., Stanley, N. C.

For additional data, request item G-208, using Handy Return Card on page 176.

Model E Wool Spinning Frame Improved

More than 20 major improvements have been incorporated in the new Whitin "Flex-Spin" wool spinning frame, which will produce counts ranging from 2/16 to 9 run, for improved yarn quality, increased frame efficiency, reduced maintenance costs, and lowered production costs.

Briefly they are:

1. Instantaneous Vari-Speed frame control. The speed of the whole frame can be increased or decreased by simply moving the handles. A marked quadrant is provided to assist in making speed changes. No gear changes of any kind involved.

2. Builder motion. Now entirely enclosed inside head end, protected from lint, dust, and accidental damage.

3. Vari-Speed twister head drive. Speed of the twister heads can be changed, even while the frame is in operation, simply by turning the handwheel.

4. Centralized frame lubrication.

5. Traverse of double line of front rolls has been increased to reduce wear on rolls.

6. Instant reverse twist mechanism. Changing from S to Z twist or back is done in a few seconds simply by loosening a large thumbscrew, turning a handle and tightening the screw.

7. Front roll speed transmission unit. The front roll speed can be increased from any established speed by the use of a four-speed transmission unit.

8. The speed of the front rolls and twister heads can be read directly from the tachometers.

9. Both twist and draft change gears have the same bore and pitch.

10. Simplified head gearing.

11. A change in the angle of the jack spool arms results in less felting of the core layers of the yarn on the spool and less waste yarn on the spool. The slotted tracks allow the jack spool to be lifted out horizontally, instead of over the top of the brackets.

12. Adjustable rotary back roll clearer prevents roll laps, and keeps flutes on bottom roll free of lint and grease.

13. Adjustable roving guides provide flexibility in changing number of ends in jack spool.

14. The self-weighted top back rolls run against a nylon insert strip on the back bar finger, completely eliminating lubrication for these points.

15. New ball bearing twister head can be easily and quickly removed from the frame and replaced. It can be easily, accurately, and positively positioned with the nippers at any desired distance from the bite of the front rolls.

16. Traversing deflecting rod.

17. Spring weighting is applied to the two front bottom rolls and the double boss top rolls. The pressure is applied through three nylon bearings which require no lubrication.

18. The use of oil impregnated metal bearings for the double line of front rolls reduces oiling frequency to twice yearly.

19. The use of a revolving front clearer prevents the return of collected waste into the yarn; it is easier to clean, is more efficient, and prevents excess pressure on the double line of front rolls.

20. Either plain bearing or antifriction spindles can be supplied. For paper tube spindles traverses up to 12" can be used; for standard wood bobbins, traverses up to 11".

21. Oil-free head end and lessened frame lubrication.

22. Slow speed start motor drive.

Whitin Machine Works, Whitinsville, Mass.

For additional data, request item G-203, using Handy Return Card on page 176.

Tough, Non-Shattering, Molded Re-Wind Caps

One-piece molded re-wind caps are now being marketed which will withstand all but the most deliberate attempts at breaking. Also, their new design compensates for the usual

variations in inside diameter of tubes.

Standard tubes for which caps are now available include one for the 2⅞" diameter acetate package, and one for the 4" diameter Dacron unit. Other sizes are being tooled for.

Artmor Plastics Corp., 1003 Oldtown Road, Cumberland 11, Md.

For additional data, request item G-224, using Handy Return Card on page 176.

Cut Drawing-In Costs, Improve Fabric Quality with Drawing-In Machine

The new Barber-Colman Model SH warp drawing machine overcomes the limitations of older machines as it permits the drawing-in of steel heddles in combinations up to 24 frames and with or without 8 or less banks of closed end drop wires. It offers a reduction in drawing-in costs, permitting not only pattern changes but also the redrawing of warps for cleanliness and maintenance of quality; also eliminates the difficulty caused by the excessive requirements of seasonal or unusual changes.

The machine is completely equipped to handle warps from a flat sheet, split sheet, double beam or one-and-one leased warp. Warps of cotton, worsted, wool, filament and spun synthetic yarns can be drawn for plain or dobby weaves. Complicated drafts can be accurately drawn because the weaving elements are controlled individually by a single sheet metal pattern.

Heddles and frames required for machine drawing offer improved weaving, thereby reducing weaving costs by improving quality.

To facilitate loading and unloading large sets of harnesses, a multi-truck warp drawing machine has been developed. By means of the second truck, machine downtime is reduced. The second truck is loaded with the harness and the warp for the next draw while the warp in No. 1 truck is being drawn.

The Model SH is made in several sizes, both for length and for number of harness and drop wires to be drawn. Any lesser number of harness or banks of drop wires can be drawn on the same machine. Each of these sizes is available in 56", 74", or 94" reed widths.

Barber-Colman Co., Rockford, Ill.

For additional data, request item G-110, using Handy Return Card on page 176.

Overhead Conveyors Now Available as Packaged Units

The No. 460 Continuous Power Conveyor is a simple, light weight, extremely flexible conveyor designed to sell as a packaged unit. The section is strong enough to carry its rated capacity over ten foot spans, and the short radii track curves and traction curves lend themselves to the conveyorization of a great variety of machine units where only limited space is available.

Maximum versatility is provided while utilizing only the minimum needed amount of material, thus effecting substantial economies while sacrificing nothing from the standpoint of safety.

Everything necessary for a 50-foot system, including a drive unit, take-up, oiler, etc., is contained in the No. 460-P50 basic package. Supplementary packages are available to extend a system to the maximum length of 200 feet chain length and 8.5 pounds unit loading every 6" or 17 pounds per foot. Only single drive systems are available, and the drive is rated at 200 pounds draw bar pull.

Richard-Wilcox Mfg. Co., Aurora, Ill.

For additional data, request item G-223, using Handy Return Card on page 176.

Portable Warp Tying Machine Features Full Width Warp Loading

Development of a new portable warp tying machine makes it possible to tie-in full width warps in a single operation so that time and labor savings are realized through reduced tying-in time at the loom, resulting in higher loom efficiency.

The portable knot-tying unit of the machine makes it possible to employ two or more frames. While one frame is being used to tie in one warp, a second frame can be prepared for the tying of another warp.

A carrier is furnished with which the operator transports the knot-tying unit from one frame to another. The carrier also provides a variable speed control for rates of tying from 60 to 325 knots per minute.

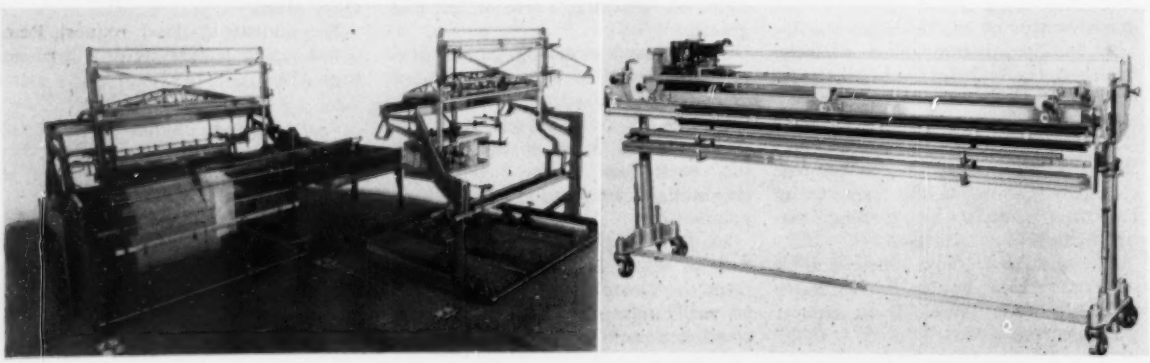
Construction of the new type warp frames permits an unobstructed view of the knot-tying unit during the tying-in process, and allows any quick adjustments in the tying mechanism which might be necessary to meet special conditions.

Three models are manufactured: Model MC selects warp threads from a flat sheet; Model MS from an end-and-end lease; Model ML from either flat or end-and-end lease as desired. All models can be obtained in 46", 56", and 66" widths. Wider widths are made to order.

Barber-Colman Co., Rockford, Ill.

For additional data, request item G-111, using Handy Return Card on page 176.

Barber-Colman two-truck type Model SH warp drawing machine (left) and warp tying machine (right) with knotter mounted in position for tying a full width of warp.



Revolving Coiler for Cards and Combers Makes Possible Uniformly Filled Cans

A revolving coiler which assures uniformly filled sliver cans is now available. The unit, which can be used with either cards or combers, consists of a turntable holding three cans, which are automatically moved into position under the coiler head as the preceding can is filled.

The unit makes dependence on the operatives for maintaining uniform lengths of sliver in each can no longer necessary. In large card rooms fewer card tenders are required, and the use of revolving coilers allows the cards to be incorporated into the system of working with packages containing a predetermined length.

The cans are grouped around an upright shaft fitted at the top with comb bars, which support the cans. As each can is filled, a measuring motion in the coiler column actuates a device which disengages the drive shaft. At the same time the turntable revolves to bring a new can under the coiler, and the comb bar severs the sliver. As soon as the new can is in position, the drive shaft reengages. A tumbler in the coiler head disengages the measuring motion if the sliver breaks.

American Rieter Co., Inc., Arlington, N. J.

For additional data, request item G-354, using Handy Return Card on page 176.

Multiple-Unit Reset Counter Has Many Uses

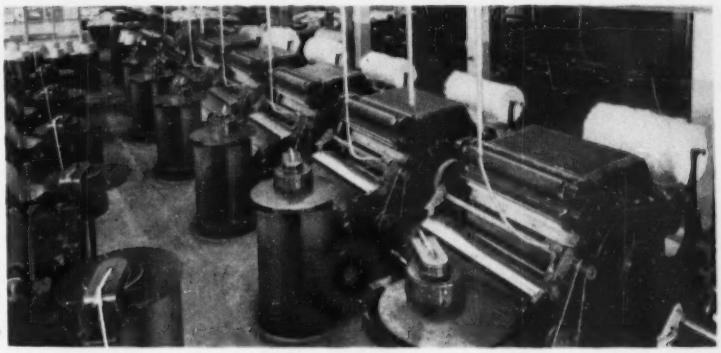
The Veeder - Root Vary - Tally Counter is used for quality control, inventory control, traffic control, sales analysis, laboratory analysis, payroll preparation and many other purposes.

The equipment is available in any of 66 combinations, up to 6 banks high and 12 units wide, with a minimum of 2 units wide, arranged compactly on stands in tiers. Fingertip pressure on the front lever of a unit registers each count from one to 9999. A reset knob returns all counters in any tier to zero instantly with one complete turn of the reset shaft. The name, color, denomination, quality or size, etc., of the item to be counted is inserted in a panel over the reading line on each Vary-Tally.

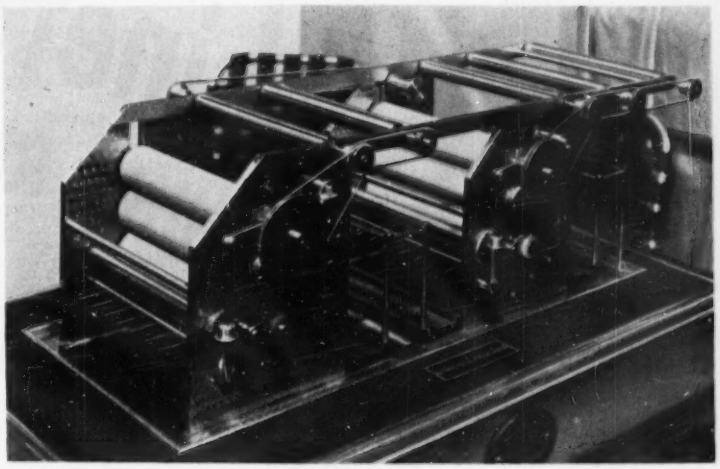
Features include no-glare, easy readability (even from an angle), portability, no obscuring of the figures by the operator's fingers, and rugged construction.

Veeder-Root, Incorporated, Hartford 2, Conn.

For additional data, request item G-501, using Handy Return Card on page 176.



Cotton cards equipped with revolving coiler (American Rieter).



Model of the new Hunter Cascade continuous washer.

Space-Saving Continuous Washer Needs No D-C Drives for Loop Control

The Hunter Cascade stainless steel continuous washer is an entirely new design of continuous washer about half as long as conventional washers, answering the need of small or large mills for economical continuous washing at a low capital investment.

There are four units instead of the usual eight.

No d-c drives are required for loop control between bowls—one 30 hp a-c motor drives the entire unit. Pumps are not required for positive counterflow—counterflow in bowls is accomplished by gravity.

James Hunter Machine Co., North Adams, Mass.

For additional data, request item G-303, using Handy Return Card on page 176.

New Soluble Vat Brown Dye

A new soluble vat brown dye, which extends its present line of leuco ester colors to ten, is designated Calco Soluble Vat Brown BY. The dye is a versatile printing color suitable for roller or screen printing on cottons and viscose alongside azoics, pigments or other soluble vats where acid aging is used.

It has excellent leveling properties

This new Robbinette* Ring has a finish which is the result of many years of cooperative research between Saco-Lowell technicians and the steel manufacturing industry. Testing and trial run reports show that its all-around performance is far superior to that of any other spinning ring.

This Saco-Lowell Robbinette* Ring is suitable for cotton, wool, paper, glass and all synthetic fibers and blends. Robbinette* Rings break in rapidly and easily — and once in operation, they increase the life of the traveler and decrease the number of ends down per MSH.

Robbinette* Finish is now standard on all of our rings for both spinning and twisting without extra cost.

***A product of the Pawtucket Spinning Ring Company, the Ring Department of Saco-Lowell Shops.**

SACO-LOWELL

60 BATTERYMARCH STREET, BOSTON 10, MASS.

Shops at BIDDEFORD and SACO, MAINE, and SANFORD, N. C.

SALES OFFICES: CHARLOTTE • GREENSBORO • GREENVILLE • ATLANTA

for the dyeing of cotton, rayon and linen dress goods and shirtings. It also shows a solid surface appearance when used on tightly woven cotton fabrics, slub weave rayons, and mercerized broadcloths. The product is also effective on wool where excellent light and wet fastness properties are required.

Dyestuff Dept., American Cyanamid Co., Bound Brook, N. J.

For additional data, request item G-217, using Handy Return Card on page 176.

Spinning Frame Motor Mounts Underneath, Saves Space

A new air-cooled spinning frame motor for application on spinning frames produces a saving in space by being mounted under the spinning frame; and overhead drives can be eliminated by having each spinning frame individually motor-powered.

Smooth contouring and completely-enclosed construction of the motor produces lint-free operation and eliminates excessive motor heating. Construction is totally-enclosed and fan-cooled with an axial-flow fan that forces air at a high velocity over the motor. In this manner, motor heat is distributed to a large surrounding area to eliminate "hot spots" anywhere along the spinning frame.

Belt tension is easily adjusted by a single jack screw on a swivel mounting arrangement. An integrally-mounted brake is optionally available depending on application requirements.

Reliance Electric & Engineering Co., 1088 Ivanhoe Road, Cleveland 10, Ohio.

For additional data, request item G-212, using Handy Return Card on page 176.

Multiple Tier Leg Forms for Boarding Socks Increase Production

Multiple-tier aluminum leg forms for nylon and Helanca socks have been developed for use with Turbo precision boarding and preboarding equipment.

Triple-tier forms for children's socks offer a production of 350 dozen pairs in eight hours when used on the Turbo AD-48 machine. Double-tier forms for men's socks offer increased production in a corresponding ratio when compared with conventional setting on single forms.

In mills now using Turbo AD-48 machines, nothing is changed but the forms. Cabinet temperatures are dial-set. Timing is automatic. One group of 24 forms moves into the cabinet for processing, while the other group of 24 forms moves out for undressing.

A simple clamp holds each leg form in position, reducing time lost in changing sizes to a minimum. The forms are made in one piece from aluminum sheet, shaped to individual mill requirements, with grooves and beveled edges as desired. They are finished glass-smooth with no rough edges to damage fabric.

Turbo Machine Co., Lansdale, Pa.

For additional data, request item G-213, using Handy Return Card on page 176.

Motor Starters Feature 3-Coil Overload Protection

Protection of three-phase motors from burnout due to overload is assured when Cutler-Hammer starters with three-coil overload protection are utilized. Research reveals that many unexplained motor burnouts could have been prevented had all three lines been protected, this electrical equipment manufacturer reports.

Another feature of these starters for better overload protection is adjustable heater coils. Four different ratings are available from a single coil by merely changing its position. Motor protection within 3% of usable motor load is thus obtained instead of the 10% or 12% otherwise offered. This means more exact protection, less nuisance tripping, more usable horsepower from motors, both new and old.

Cutler-Hammer, Inc., 1457 St. Paul Ave., Milwaukee 1, Wis.

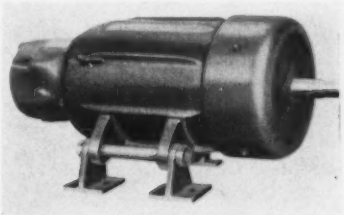
For additional data, request item G-134, using Handy Return Card on page 176.

Portable Lubricant Gun Electrically Operated

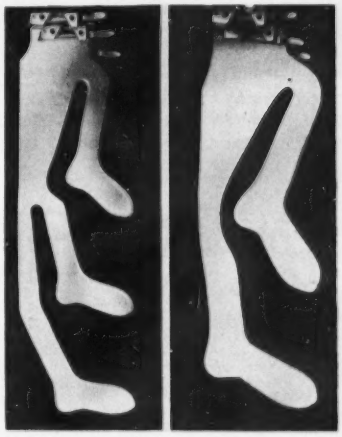
A light weight, highly maneuverable, high pressure, electrically operated lubricant gun is ideal for use at widely separated points. Called the electric "Porta-Kart" lubricator, its overall width is only 18 inches.

Capacity of the lubricant container is 12 pounds. Powered with heavy-duty, 115-volt, d-c/a-c (up to 60 cycles) universal motor. Automatic pressure switch shuts off motor when

NEW Equipment AND MATERIALS

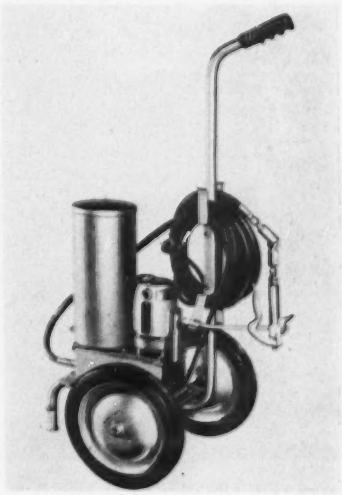


Reliance motor for mounting under spinning frames.



Triple (left) and double tier leg forms for socks by Turbo.

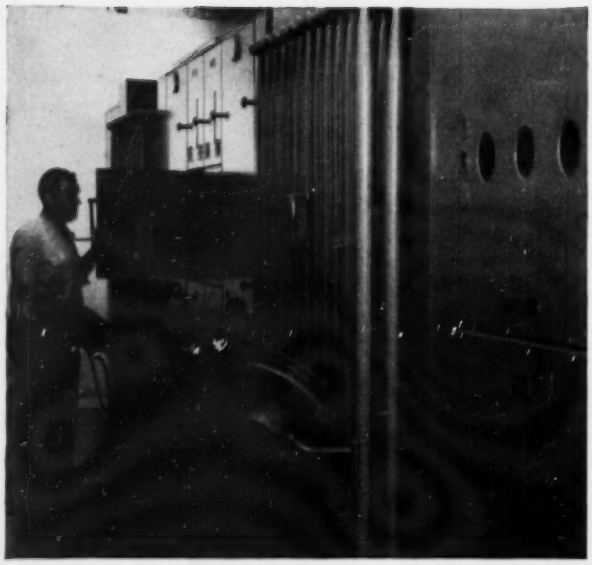
Alemite "Porta-Kart" lubricator.



ENGINEERING REPORTS:

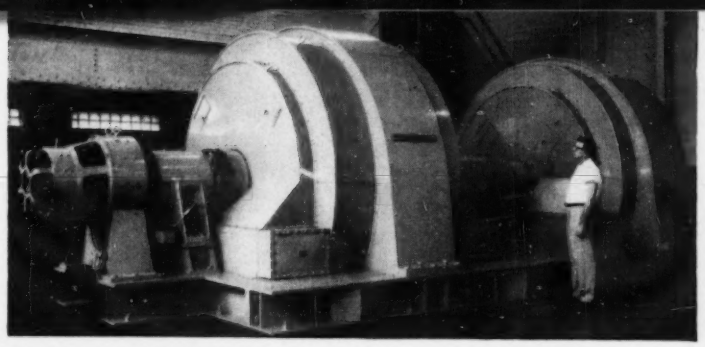
ECONOMICAL, DEPENDABLE POWER GENERATION is supplied at Dan River Mills' Schoolfield mill in part by this new G-E 7500-kva turbine-generator. Incoming steam enters at 600 lb pressure, exhausts at 100 lb for process use in dyeing ranges and tenter dryers. In addition, this modern textile mill also purchases utility power.

$7-million addition at Dan River powered by flexible General

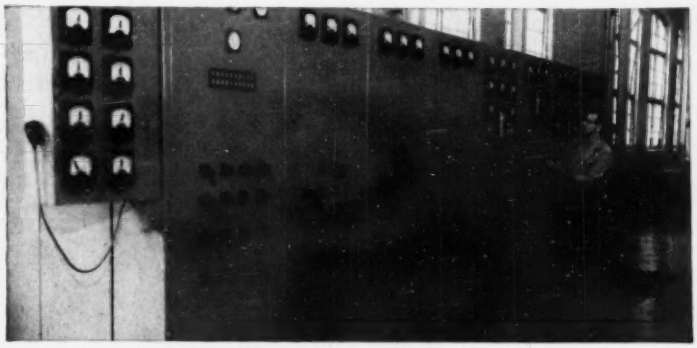


POWER FOR FINISHING and bleaching is provided by compact G-E load-center unit substation, rated 1000 kva, 6900/600 volts, 60 cycles. Factory-wired, it saves installation costs.

POWER FOR FILTER PLANT, at suitable voltage level, is supplied by these two G-E 1000-kva power transformers, which step down voltage of power purchased by Dan River Mills.



POWER-SYSTEM FLEXIBILITY is made possible by this G-E 5000-kva frequency changer installed previously. It can convert purchased 60-cycle current to 25 cycles, or plant-generated 25-cycle current to 60 cycles.



POWER-SYSTEM CONTROL is function of main G-E switchgear panel, through which all power is distributed. Plant generates 10,000 kw of 25-cycle current, purchases about 100,000,000 kwh of 60-cycle current per year.

Mills Electric system

A new $7,000,000 addition to the finishing mill providing a total finishing capacity of 1,000,000 yards per day was recently added by Dan River Mills to its Schoolfield Division in Danville, Virginia.

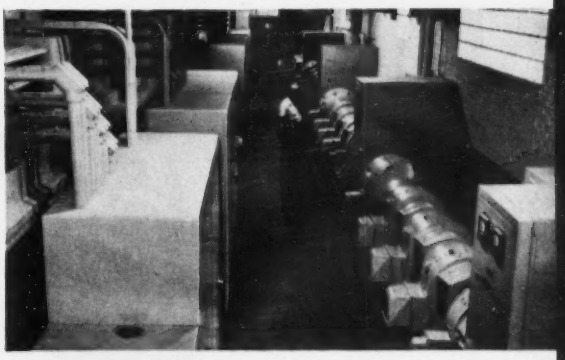
Because this increased load required an expanded electrical system, General Electric application engineers were called in to work with the plant's designers, United Engineers and Constructors. Together, they selected and co-ordinated the electric equipment needed to meet the plant's requirements. This included a 7500-kva turbine-generator, power distribution facilities, and motors and control. G-E field engineers checked initial operation, helped expedite startup.

Most electric power is purchased by the plant at standard 60-cycle frequency. It also generates its own 25-cycle power for some existing equipment, as a by-product of process steam. By a frequency changer that converts 25- to 60-cycle power or vice versa, maximum flexibility in balancing power needs is obtained.

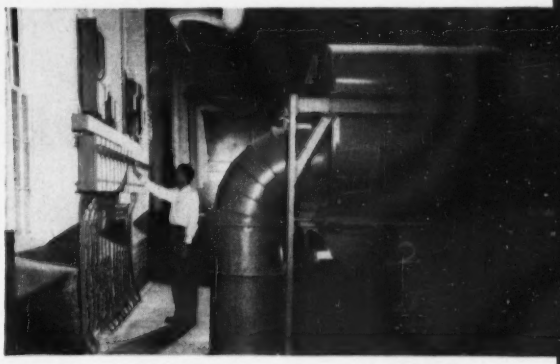
In expanding or modernizing your textile-mill operations, take advantage of the special engineering services available to you through your local G-E Apparatus Sales representative. Call him early in your planning for best results. General Electric Company, Schenectady 5, N. Y. 654-34

Engineered Electrical Systems for Textile Mills

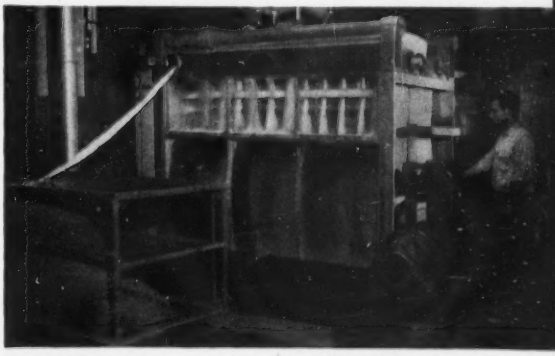
GENERAL ELECTRIC



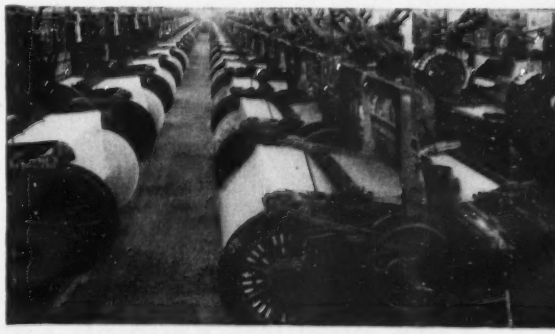
BLEACHING OPERATION is reliably powered and controlled from this room through G-E motors and starters, multiple-generators, and control panels.



PICKER is controlled from this lineup of G-E combination starters. These space-saving units combine in one enclosure both short-circuit and overload protection.

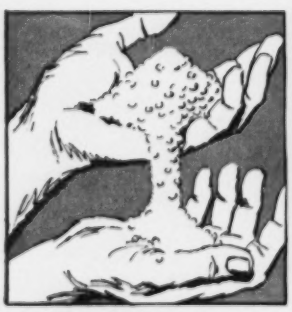


BLEACHING RANGE uses sturdy G-E d-c motors in adjustable-voltage drives. With continuous bleaching, goods are now bleached in 3 hours instead of 32.



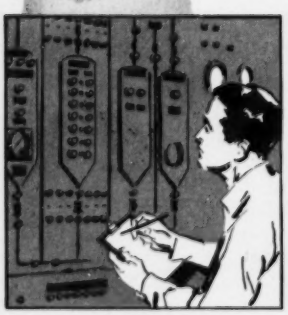
WEAVE ROOM uses G-E loom motors, controlled by G-E loom switches, to help meet rigid speed and torque requirements, help maintain maximum output.

GLOBE® pearl corn starch gives you all this...



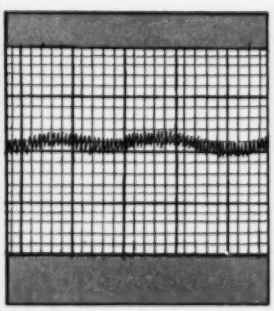
A SUPERBLY CLEAN PEARL STARCH

Put Globe Brand Pearl Corn Starch to the test. We know you'll be happy with the clean, clear size it makes. Globe Pearl Corn Starch is always available in the quantities you desire.



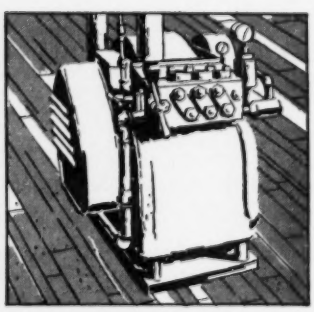
CONTROLLED UNIFORMITY

Globe Brand Pearl Corn Starch is made under exacting plant and laboratory controls. Each batch will meet your exacting specifications. This thick-boiling starch is ideal for warp sizing carded yarns.



VISCOSITY STABILITY

Globe Brand Pearl Corn Starch performs perfectly in the sizebox, producing a smoother, tougher size, giving a yarn with greater strength and reduced shedding.



IDEAL FOR HOMOGENIZERS

A special Globe Brand Pearl Corn Starch has been developed for homogenizers. It homogenizes to a uniform end-product, clean and stable, making a size that produces a better sized warp.

- Take advantage of our free technical and laboratory service. Send your specific production problems to us. We welcome the opportunity to serve you.

Corn Products Refining Company • 17 Battery Place, New York 4, N. Y.

grease pressure is approximately 5000 psi. Delivers 13 oz. per minute. Container has follower plate and strainer. 25-foot electric cord and 10 foot delivery hose provide 35-foot working radius.

Alemite Div., Stewart-Warner Corp., 1826 Diversey Parkway, Chicago 14, Ill.

For additional data, request item G-106, using Handy Return Card on page 176.

Peralta Burr Crushing Machine Improved

The new Peralta machine for burr crushing on woolen cards can run at lower pressure with better results than was possible with earlier models. As a result, damage to strength and length of fibers is reduced.

The top roll is offset in the two-roll unit. Amount of offset is adjustable.

Duesberg-Bosson of America, Inc., Main St., Jefferson, Mass.

For additional data, request item G-143, using Handy Return Card on page 176.

Get More Service from Expander Rolls by Re-Wrapping with Tape

When expander rolls wear out, they can be returned to Mount Hope Machinery Co. where the new Mount Hope longer-life undersleeves will be installed and wrapped with "Wearsaver" tape and returned.

Thereafter, when re-wrapping becomes necessary over a period of time, the "Wearsaver" tape can be applied in the plant, saving time and money.

Mount Hope Machinery Co., 15 Fifth St., Taunton, Mass.

For additional data, request item G-309, using Handy Return Card on page 176.

Versatile Wet-and-Dry Picker

Capable of running at a speed of 950 rpm and built in widths from 18" to 72", a new wet-and-dry picker may be equipped with vari-speed drive, if desired, and can be furnished with a vari-speed drive for the main cylinder and feed rolls.

The unit is ideally designed for opening and blending all man-made fibers, as well as cotton staple and linters, and is commercially used prior to the carding operations.

It is so designed to treat the fibers gently and maintain a minimum of fiber breakage and, at the same time, provide 100 per cent opening.

Stainless steel feed rolls and lined housing can be supplied; also varying types of lags.

C. G. Sargent's Sons Corp., Graniteville, Mass.

For additional data, request item G-318, using Handy Return Card on page 176.

Revolving Steam Joint Has Longer Life

Life of the bearings in Barco revolving steam joints now being delivered to customers for installation on slasher cylinders, dry cans, etc., has been extended by the use of "Bar-Moly," a molybdenum disulfide dry lubricant treatment of the metal bearing parts.

The treatment prevents galling. Bearings will withstand temperatures up to 350 F.

Also, recently developed was a ¼" Type NV revolving joint for rotating connections, such as those found on wind-up drives and loom let-off drives. Its steel ball bearing assembly is permanently lubricated, needs no lubrication of any kind.

Barco Mfg. Co., 500-510 North Hough St., Barrington, Ill.

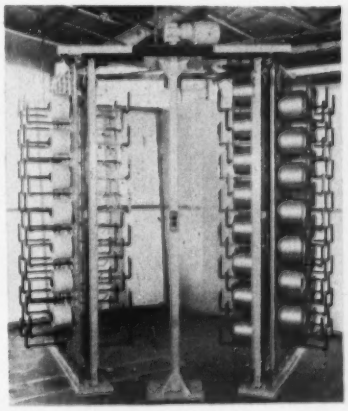
For additional data, request item G-126, using Handy Return Card on page 176.

NEW Equipment AND MATERIALS

Versatile Cheese Creel Simple, Efficient

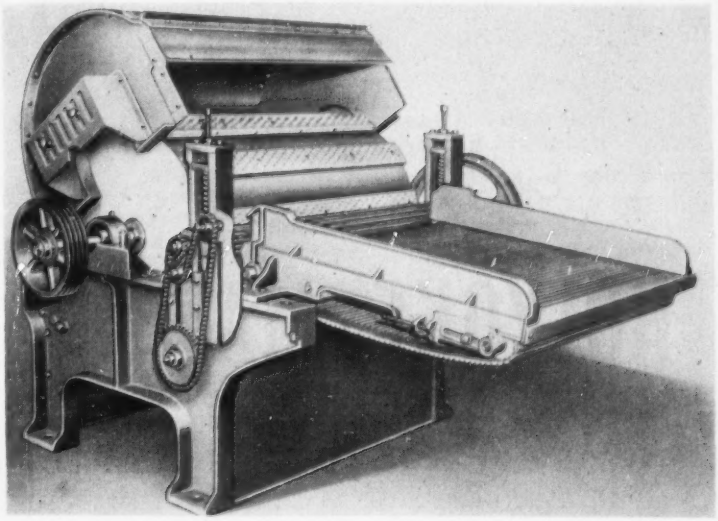
Here are some of the outstanding features of the Cocker cheese creel for all capacity packages of various types of yarn:

1. Fast acting tension with a self-cleaning stop motion.
2. Stop motion and tension finger drop wire unit which is replaceable in a minute.
3. Simple and positive threading arrangement which is accomplished with the loading motion when in reserve position.
4. All ends in reserve are thus



Cocker cheese creel for warpers.

New Sargent wet and dry picker.



"HOLYOKE"

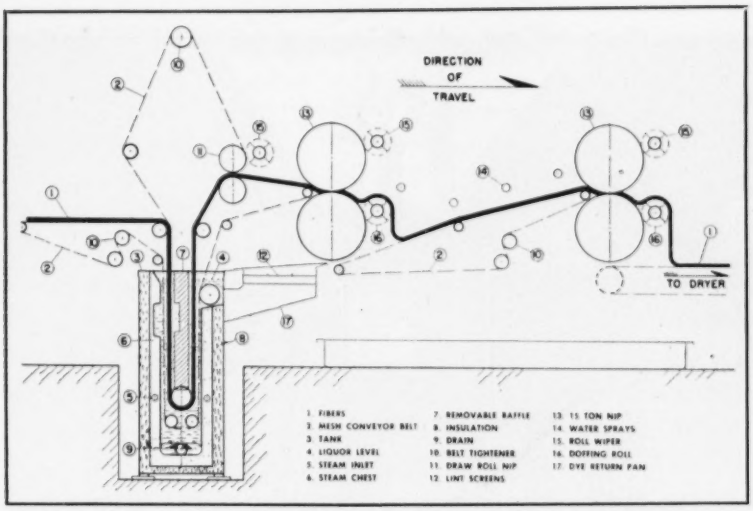
CALENDER ROLLS

Established 1863

HOLYOKE MACHINE COMPANY

CALENDER ROLLS for the PAPER and TEXTILE INDUSTRIES
WATER FILTRATION EQUIPMENT

HOLYOKE, MASSACHUSETTS



Williams continuous fiber processing machine (Morrison).

threaded and ready to pull to the warper and lay into the comb at rotation.

5. Distance from package to stop motion is instantly adjustable.

The creel is designed for rapid and easy adjustment to suit varying conditions, for quick and economical maintenance, for flexibility in layout of any number of ends, for a smoother and better operation.

Cocker Machine and Foundry Co., Gastonia, N. C.

For additional data, request item G-130, using Handy Return Card on page 176.

Reusable Pad Stops Machine Vibration

Machine installation costs can be cut by as much as 50% and downtime is negligible when relocating equipment if Air-Loc 4-17-4 antivibration floor pads are utilized. Bolting machines or cementing pads to floors is eliminated—they can be installed by simply slipping under the machine.

The reusable pads, consisting of cork and sisal fiber impregnated with Bakelite vinyl resin, support pressures up to 4000 psi and do not crumble or deteriorate if soaked in oil. Vibrations of a machine merely cause this waffle grid pad to grasp the floor more firmly with its 451 inches of gripping edge per sq ft.

Clark - Cutler - McDermott Co., Franklin, Mass.

For additional data, request item G-129, using Handy Return Card on page 176.

Continuous Fiber Processing at Low Cost

The Williams continuous fiber processing machine can be used for a number of dyeing and chemical operations on fibers, after which the fibers require no additional treatment before drying.

Using direct color, certain stocks can be processed through this single unit.

The dye bath on a 50" wide machine has an approximate volume capacity of 100 gallons which makes it practical to work with impregnating solutions that have a high cost per gallon.

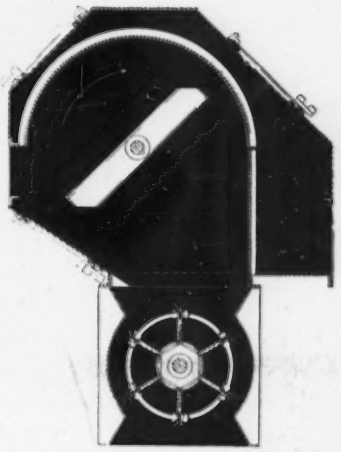
This machine, including the mesh type conveyor belts, is constructed of stainless steel.

Morrison Machine Co., 1171 Madison Ave., Paterson 3, N. J.

For additional data, request item G-311, using Handy Return Card on page 176.

Combination Condenser and Cleaner for Cen-Tennial Textile Fiber Opener

The Cen-Tennial Textile Separator, of sturdy all-steel construction with self-aligning ball bearings, is specially designed for handling all stock from the Cen-Tennial Textile Fibre Opener, a machine based on the one designed by the Southern Regional Research Laboratory, New Orleans, La., for improving the quality of cotton at textile mills.



Cross section of Cen-Tennial Textile Separator.

The large, roomy upper chamber of the Textile Separator is used for separating the air from the stock while the full length vacuum feeder section underneath feeds the stock out of the machine. The unit is a combination condenser and cleaner—dirt and foreign matter pass through the large area of perforated metal screen along with the air.

Convenient hinged type inspection doors are located on every side of the machine. All bearings are easily accessible and located outside of the separator away from dust and dirt.

Cen-Tennial Cotton Gin Co., Columbus, Ga.

For additional data, request item G-140, using Handy Return Card on page 176.

Automatic Transfer Applying Machine

The Kaumagraph automatic transfer applying machine is a versatile machine to answer the needs of product identification of textiles and plastic products.

It will mark on both selvages of the fabric at a speed of 45 yards per minute. It will backmark fabrics one or more marks across the width of the fabric at such stated intervals as may be required, either in a line or staggered as desired.

The marking heads may be spaced as required. The brand mark may be

Gaylord Boxes Insure Happy Landings for Your Products

What happens to your products when they "hit the road?" Are they treated as carefully as you treat them back home?

Undoubtedly NOT! They're bounced . . . thrown . . . jostled . . . bumped. Not purposely, of course—but it does happen.

For minimum damage, many leading manufacturers are careful to specify Gaylord Boxes. This is a natural compliment to high quality, superior materials, and special protective abilities.

Make a wise investment in cost-cutting product protection. Contact your nearby Gaylord Sales Office.

GAYLORD CONTAINER CORPORATION

SALES OFFICES

Gaylord Boxes

General Offices: SAINT LOUIS, MO.

COAST-TO-COAST

in one to four colors.

The machine requires no labor to operate other than to replace the transfer rolls from time to time. It can be installed on nearly any standard finishing room machine and operate in conjunction with it at the same speed the fabric travels, not exceeding 45 yards per minute.

Kaumagraph Co., Wilmington 99, Del.

For additional data, request item G-306, using Handy Return Card on page 176.

Instrument Predicts Potential of Cotton to Form Neps

The "Nepotometer"—an instrument for predicting the potential of cotton fibers to form neps (described in TI for April, 1954, page 174)—is now being manufactured for sale to the mills.

Developed by the Department of Textile Research, School of Textiles, North Carolina State College, under contract with the U. S. Department of Agriculture, it is designed on the principle of repetitive mechanical action on the same cotton fibers, in accordance with the known fact that reprocessing causes a rapid increase in nep content. The machine also incorporates the carding and stripping actions of a full-scale cotton card.

Wright Machinery Co., Durham, N. C.

For additional data, request item G-323, using Handy Return Card on page 176.

Pneumafil Equipment for the Woolen Card Tape Condenser

Pneumafil equipment, now available for use on the woolen card tape condenser, automatically conveys broken ends back to the feed bin for continuous reprocessing.

With this equipment, broken ends do not break down other ends and form doublings, slubs, and gouts; the cleaning problem is greatly reduced since much of the free lint and fly are collected from the air; and the waste end problem is eliminated since it is automatically carried to the wool card feed bin.

Pneumafil Corp., 2516 Wilkinson Blvd., Charlotte, N. C.

For additional data, request item G-315, using Handy Return Card on page 176.

Device for Vacuum Stripped Cotton Cards Provides Continuous Web and Sliver

The Abington "continuous web and sliver with automatic feed control and air shut off" device for cards using Abington system stripping offers these advantages:

1. Web always remains intact with comb; comb is stopped in down position;
2. Piecing up after vacuum stripping is eliminated;
3. Quality is improved with uniform, automatic splicing at any time;
4. Prevents thick and thin hand piece-ups;
5. Dogtail problem is satisfactorily solved;
6. Automatic feed control saves valuable stock;
7. Automatic air shut off increases stripping efficiency.

This device can be easily applied to existing cards with Abington strippers. Just push nozzle to starting position and open valve. After card is stripped, feed, air, and piece-up operations are automatically completed.

Abington Textile Machinery Works, North Abington, Mass.

For additional data, request item G-102, using Handy Return Card on page 176.

Argyle Knitter Has Unlimited Pattern Range, High Production

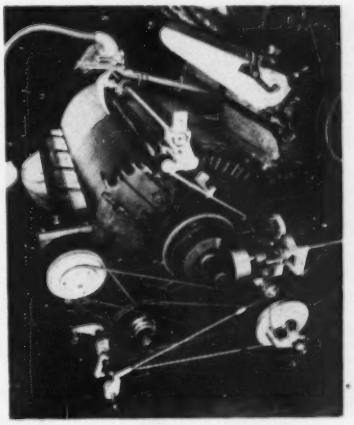
The Crawford fully automatic true argyle hosiery knitting machine now being manufactured produces the regular six-diamond argyle pattern as well as unlimited varigated triangular or rectilinear patterns. The clutch permits shogging of the needle cylinder to eight different positions so that the portion of the pattern being knitted is always in the center of the knitting position.

Needles are divided into 16 sections around the cylinder so that a pattern section can be started in any one of the 16 positions and on any number of needles. After the point or plane of a section of the pattern is selected by switching the selected needles to the knitting position, it is possible to narrow or widen to any given point or plane in 30 or 45 degree lines on either side of the suture.

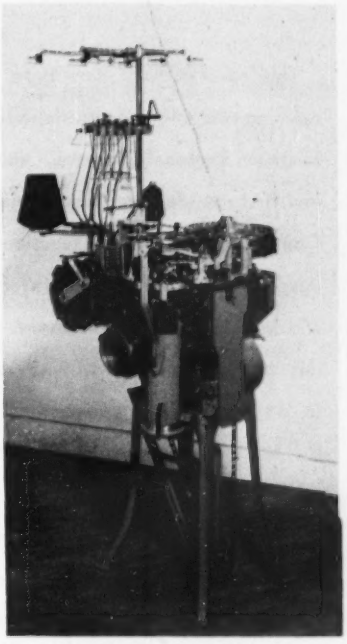
Pattern changes are made by rearranging the pins in the pattern control wheel and the cams on the top pattern drum. The yarn change mechanism is set up to change colors in sequence from one to six. To change the color arrangement, it is only necessary to change the pins in the pattern control wheel. In addition to controls for selecting any one of the six colors according to the desired pattern, the machine comes equipped with an exclusive heel and toe reinforcing attachment.

About nine dozen pairs of 84-108 needle socks can be produced in 24

NEW Equipment AND MATERIALS

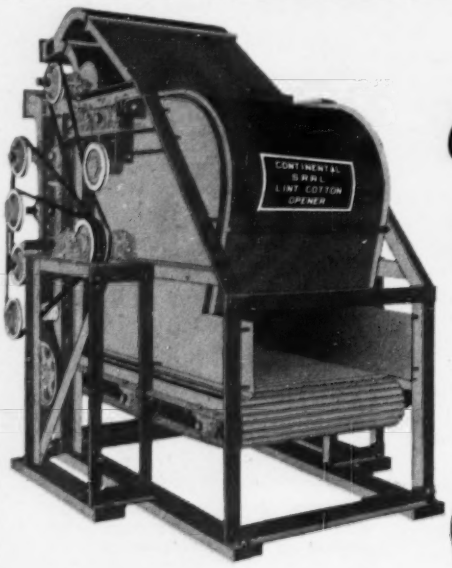


Abington attachment for cards with vacuum stripping eliminates piecing up after stripping.



Crawford argyle knitter.

CGC

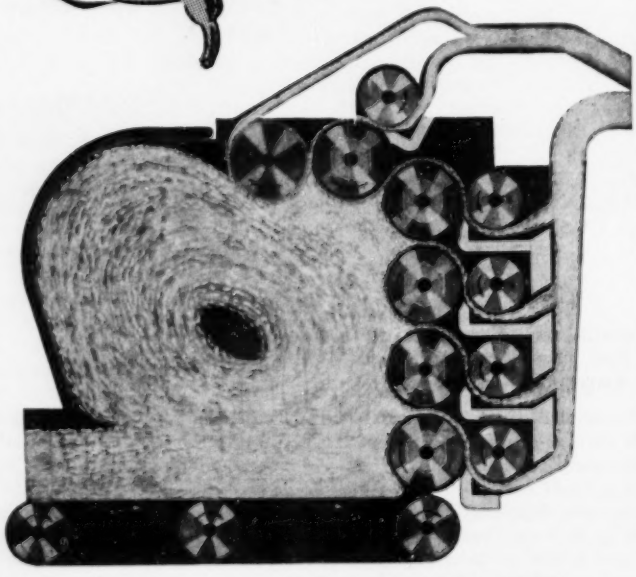


Continental's SRRL LINT COTTON OPENER

SAVES SPINNABLE FIBRE
PRODUCES BETTER YARNS
IMPROVES PROCESSING

This revolutionary new type cotton opening machine was developed by the Southern Regional Research Laboratory and first manufactured commercially by Continental. Its prime function is to open and fluff cotton. Laboratory tests and mill experience have shown it does this at high capacity without damage to the fibre. While designed primarily to facilitate cleaning machine-harvested cotton through better opening, it is an excellent blender. This makes it also valuable for high grade cotton. Initial cost and operation are both low.

We invite you to write for Bulletin 208 which gives complete description



SECTIONAL VIEW

Continental GIN COMPANY

BIRMINGHAM, ALABAMA

ATLANTA • DALLAS • MEMPHIS

hours on one of these machines, with a knitter load of 30 machines and fixer load of 60 machines, according to mill reports.

H. E. Crawford Co., Inc., Kernersville, N. C.

For additional data, request item G-214, using Handy Return Card on page 176.

Non-Acid Floor Cleaner Offers Safety, Low Cost

Finnell Sanax is a non-acid soap emulsion for cleaning sealed wood floors, cement and composition floors. It can be applied in solution containing from two to eight ounces per gallon of water, depending on the condition of the floors. Also, it can be used in a solution of one ounce per gallon of water for cleaning glass and tile walls.

Outstanding features of the product are:

1. Safety—non-slip, even while wet;
2. Leaves a deposit of wax and non-slip agent to protect floor and personnel;
3. Economical—cost of material is less; easier to apply; greater coverage; faster working with minimum labor cost.

Sanax can be sprinkled on the floor by hand or applied by machine and picked up with vacuum. Also, it can be worked under frames by hand squilgee and then vacuumed.

Finnell System, Inc., Elkhart, Ind.

For additional data, request item G-363, using Handy Return Card on page 176.

"Stretch" Yarn Making Simplified with Special Flyers and Rings

Used in conjunction with Herr conical rings, a special light weight nylon eccentric aluminum base flyer permits installing and backing out twist in Helanca nylon yarns at profitable speeds.

Increased speeds are possible because of the light weight construction and nylon bearings which balance the action of the yarn and reduce the bearing contact on the spindle. Perfect control of twist is provided, both when installing and backing out.

The Herr conical rings have controlled lubrication so that the spongy Helanca yarn is kept clean. They also stop yarn breakage, permit heavier doffs, and produce smoother yarn.

Herr Mfg. Co., Inc., 318 Franklin St., Buffalo 2, N. Y.

For additional data, request item G-401, using Handy Return Card on page 176.

Spindle Driven Warper Features Speeds to 700 ypm

Speeds up to 700 ypm can be obtained with the new Cocker SD-54 spindle drive warper for all yarns.

Other features include: patented differential yarn speed control; driving and braking of the beam from both ends; extra heavy duty bearings; air controlled presser roll gives beam after beam of constant density; electrically controlled doffing; individually rheostat controlled electric brakes.

Cocker Machine and Foundry Co., Gastonia, N. C.

For additional data, request item G-132, using Handy Return Card on page 176.

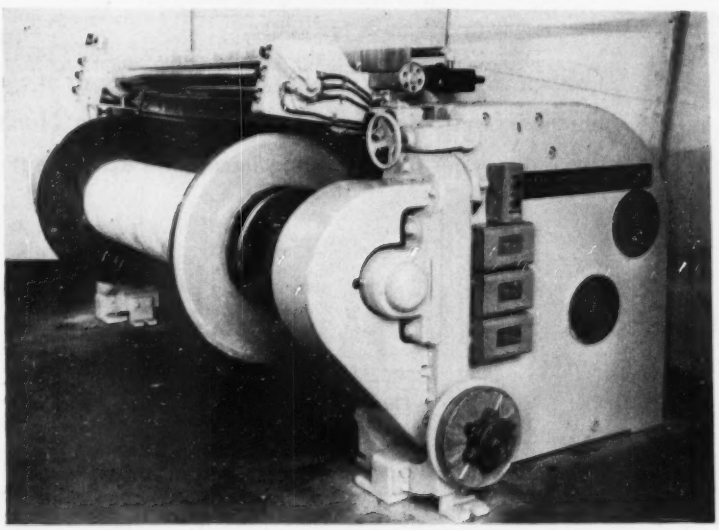
High Production Drawing Frame for Fiber Lengths 7/8" - 3"

The recently developed Whitin "Even-Draft" drawing frame has a four-over-five roll arrangement, handles fibers ranging from 7/8" - 3" with minimum changes of roll settings, and operates at a front roll production speed of 150 feet per minute. This new frame is both versatile and completely flexible, capable of handling the drawing requirements of cotton and spun rayon mills. It has many novel features for increased efficiency and for lowered operating and maintenance costs.

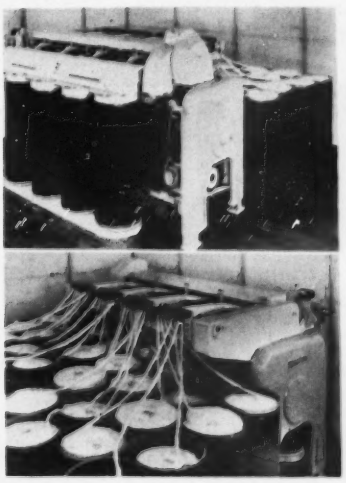
The frame is designed to handle 6 or 8 ends up on either carded or combed slivers, and deposits the sliver in 14" cans.

A quick-acting electric clutch is used. In conjunction with the electrical stop motions, it eliminates the necessity of a large number of parts formerly required, such as the tight and loose pulley, the shipper motion,

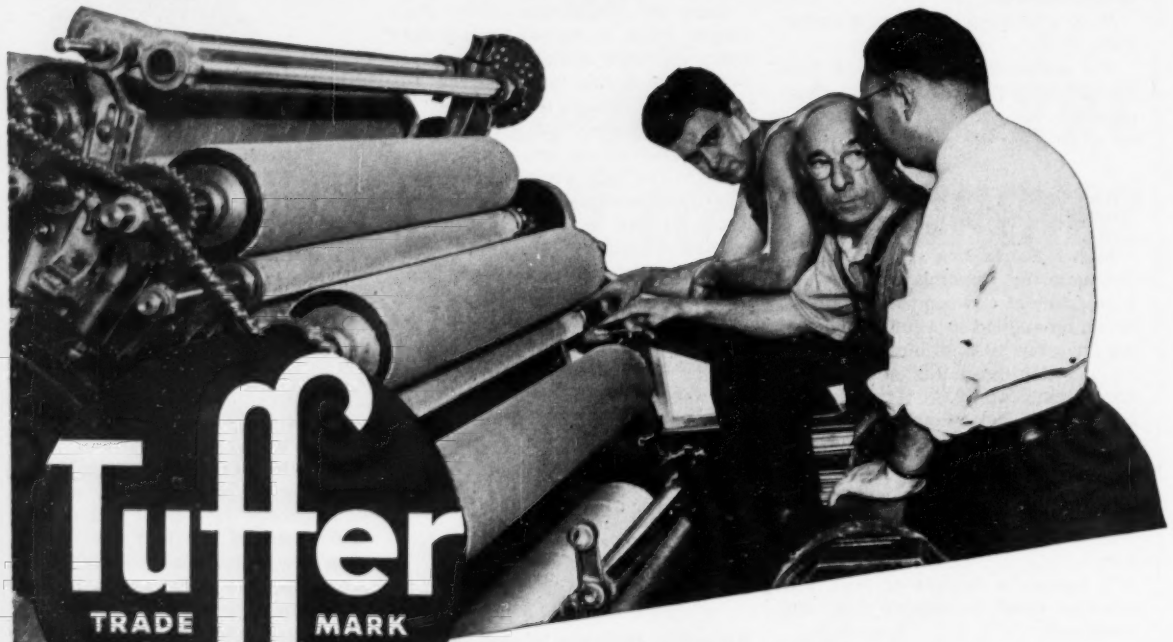
The Cocker SD-54 spindle driven warper.



Front and back views of the Whitin "Even-Draft" drawing frame.



Up Against A Card Room Problem?



Tuffer
TRADE MARK

CARD CLOTHING

For Example

One mill, faced with what its president called a "terrible mess in the card room," reported:

"Your man left us in a position to handle our job successfully and with a personnel that he had trained for us. Our weaving efficiency, now over 90%, is about 10% above what it was. We give him all the credit — what he accomplished would have taken us months to do."

IT'S wise, then, to turn to a TUFFER man. He'll be on the job — RIGHT IN YOUR OWN MILL— and help you work out a solution.

He'll come up with *workable* suggestions and recommendations to kick up production and at the same time improve the quality of your material.

You'll get that valuable ON-THE-SPOT PERSONAL ATTENTION that TUFFER men have been giving to textile mills for years.

Contact us direct at Worcester, Massachusetts, or at our Southern plants at Atlanta, Georgia or Gastonia, North Carolina. Your call will bring immediate action, without obligation.

Manufacturers of Card Clothing since 1866

See us at Booths 245-246
Southern Textile Exposition
Greenville, South Carolina
October 4-8, 1954

HOWARD BROS.

WORCESTER 8, MASSACHUSETTS
Southern Plants: Atlanta, Ga., and Gastonia, N. C.
Direct Representation in Philadelphia, Pa., and in Canada

TUFFER PRODUCTS Card Clothing for Woolen, Worsted, Cotton, Asbestos and Silk Cards • Napper Clothing, Brush Clothing, Strickles, Emery Fillets. Top Flats Re-covered and extra sets loaned at all plants. Lickerins and Garnet Cylinders from 4 to 30 inches and Metallic Card Breasts Rewired at Southern Plants • Midgley Patented, and Howard's Special Hand Stripping Cards • Top Flat Chains

wag motion, and sliver spoons. An additional advantage is secured by the positive drive to the front rolls by use of V-belts, and the smooth cushioned acceleration of the drive from the clutch.

Three push button stations are provided, one in the front center of the frame and two in the rear. Each has a jogging feature actuated by the stop button.

Accurate control of the weighting is secured through a series of springs individually suspended from the roller beam. The weighting is positive in action. A new weight relieving mechanism relieves the weighting instantly by rotation of a handle.

The sliver table has been extended toward the cans—the lifting rolls are 10" closer to the cans and in a higher position than was formerly customary. This feature allows the processing of eight ends of combed stock and eliminates stretching of the slivers between the cans and the lifting rolls.

The table is also equipped with a pan having converging sides for additional support of the sliver. Piecing-up from the back of the frame is also much easier for the operator.

Several stop motions are provided: one, actuated by the lifting rolls stops the frame when an end breaks in back or a can runs out; another is a pendulum type stop motion located in front of the delivery rolls to stop the frame if there is a lap up or if there is a plug in the trumpet; the full can stop motion is also electrically controlled and is actuated by a counter which can be pre-set for any requisite number of yards or pounds to be put in the can. When the cans are full, a signal light goes on to inform the operator that the frame is stopped.

Whitin Machine Works, Whitinsville, Mass.

For additional data, request item G-201, using Handy Return Card on page 176.

Most Flexible Winder Uses Lathe Principle of Holding Bobbins

Utilizing the principle of a lathe for holding the bobbins so that packages can be readily inserted and removed, the new Fletcher "Speedex" winder winds many different shapes and types of bobbins at an average yarn speed often exceeding 1000 ypm. Vibrationless rotation is obtained.

The machine can make conventional spools up to 8" traverse, taper top spools for twisting or warping, and double taper tubes for shrinking or shipping.

Fletcher Works, Glenwood Ave., Philadelphia 40, Pa.

For additional data, request item G-364, using Handy Return Card on page 176.

Automatic Jig Offers Torque Control

The "Autojig," a fully automatic dye jig manufactured by F. Smith & Co. (Whitworth) Ltd., Rochdale, England, and now available through an agent in the United States, has as an exclusive feature torque control which enables the machine to start up slowly, slow down gradually, and stop at the point of reversal, thereby preventing snatch—very essential when processing delicate fabrics. A selector switch giving six different degrees of control can be set according to fabric being processed.

Other advantages of the unit are: top batching rollers can be removed from the jig without disturbing the driving unit; little maintenance required; standard squirrel cage motor in drive unit; output shafts governing cloth speed can be increased or decreased to meet existing production requirements—standard model gives an average cloth speed of 82.5 ypm with a 30" maximum diameter batch.

Of special interest to mills that already have jigs that are non-automatic is the fact that the Autojig driving unit can be purchased separately and fitted to any make of jig.

Cook-P&N Machine Co., 365 Dorchester Ave., Boston 27, Mass.

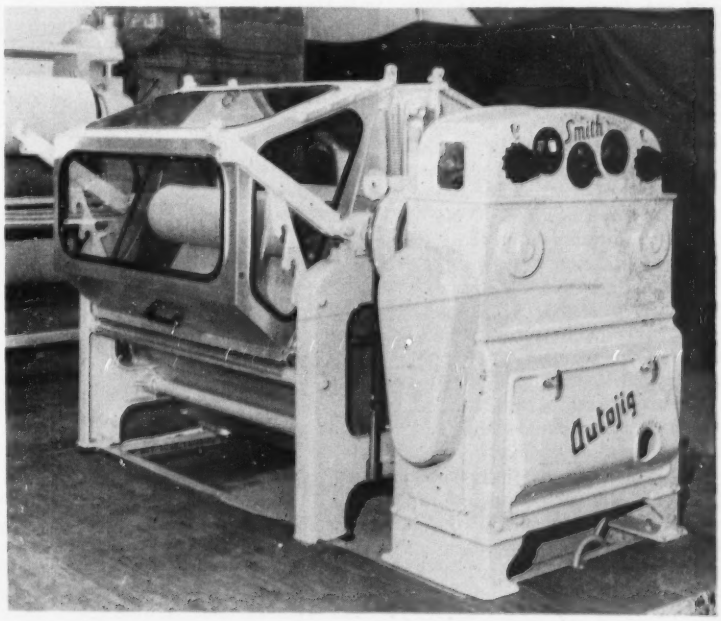
For additional data, request item G-138, using Handy Return Card on page 176.

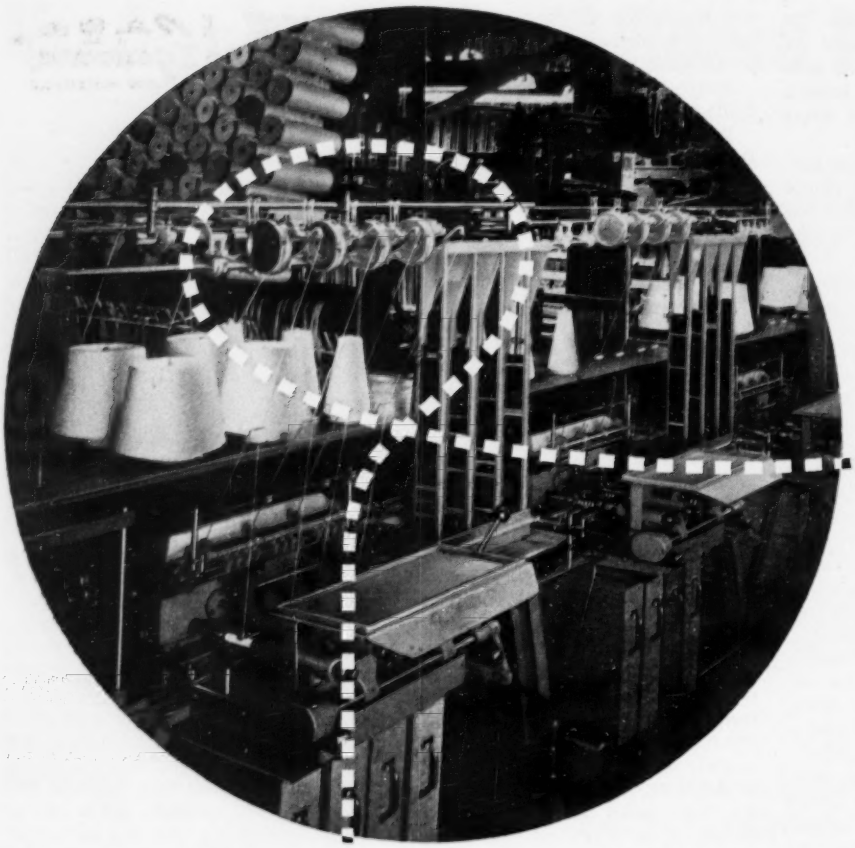
Synthetic Card Is Heart of Short Worsted System

Production of a worsted-type yarn from synthetics and blends in just six operations—blending, carding, gilling, drawing, roving, and spinning, with combing omitted—is made possible by a short system of which the card is the major new component. The card features high production with low unevenness and intimate blending.

The intermediate feed between the breaker and finisher cards is a modernization of the Apperly-type feed; the sliver from the breaker card is laid at a long angle on the feed table of the finisher card. The fibers are then delivered head-on to the finisher card through the action of

The "Autojig," sold in this country by Cook-P&N





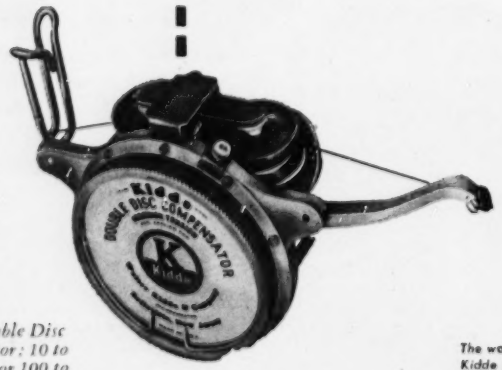
how quill winding is controlled at the Jean Ribbon Mills, Inc.

The Jean Ribbon Mills, Inc. of Paterson, New Jersey, makers of quality narrow fabrics, control quill winding on their German-made Hacoba quiller with Kidde Double Disc Tension Compensators.

They report they have fewer faulty quills, with fabric widths more uniformly controlled. There are closer yardage differences from one quill to another, with an actual increase in yardage. This results in less down time of the loom and reduces yarn waste.

Kidde's complete line of tension compensators is used by more than 500 leading textile mills throughout the nation — a striking tribute to their effectiveness in solving any tension problem.

They can help you turn out better products at less cost! Write today for full information.

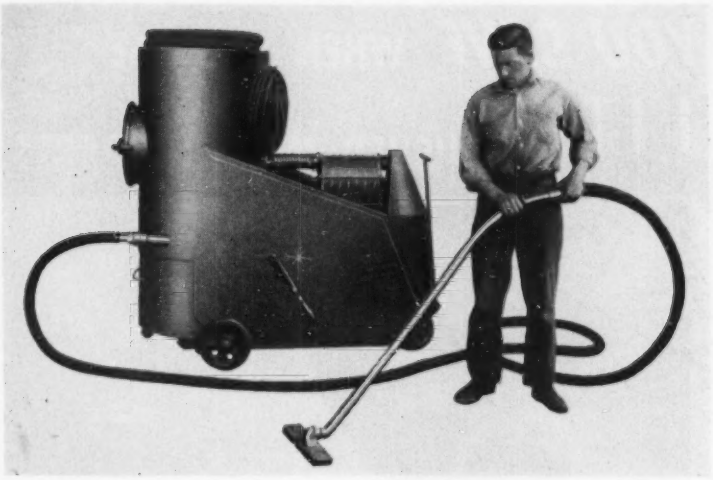


Kidde Double Disc Compensator: 10 to 140 grams or 100 to 300 grams.

The word 'Kidde' and the Kidde seal are trademarks of Walter Kidde & Company, Inc.

Kidde

Walter Kidde & Company, Inc.
790 Main Street, Belleville 9, N. J.



Portable vacuum cleaner by U. S. Hoffman Machinery Co.

straightening feed rolls. A double feed roll arrangement is used, with a draft of two between them.

Multiple sliver delivery from the finisher card to 20-inch cans is effected by pneumatic and mechanical splitting of the web. Delivering four 100-grain slivers, production is about 100 pounds per hour. Other arrangements of similar cards are delivering four, six, and eight slivers with weights ranging from 30 to as high as 250 grains.

Operation of the whole carding set is made fly-proof by covers and underpans.

Proctor & Schwartz, Inc., 7th St. & Tabor Rd., Philadelphia 20, Pa.

For additional data, request item G-343, using Handy Return Card on page 176.

Versatility of Pile Fabric Looms Increased with this Head Motion

Scope of pile fabric patterns is increased 100% when the new 16-jack, three-position head motion by Jean Guesken GMBH Dulken, RHLD, is installed on new or existing looms.

One jack operates one harness for three positions. The unit is reversible—can be run backwards and forward. Pattern chain building is simple—steel stirrups are used instead of rollers. No cams are required, and the machine is built heavy enough to operate top and bottom warps.

Mawaco Machine Co., Inc., 56 Bogart St., Brooklyn 6, N. Y.

For additional data, request item G-310, using Handy Return Card on page 176.

Portable Vacuum Cleaner Operates Two 50-ft Hoses

A new 5-hp portable vacuum cleaner is designed to operate two 50-foot, 1½-inch hoses simultaneously—or one 75-foot length of 1½-inch hose.

The Hoffco-Vac 35 has a large dust bucket and is equipped with an exhauster and motor which produce 6.5" hg suction. The new machine is recommended for use as a general housekeeping tool to keep floors, wall, lights, and other dust catchers around the plant spruce and clean. The machine fills a specific need in industry for a high-vacuum, low-cost cleaner.

The cleaner is compact and highly maneuverable; it turns easily within its own length. Because of dynamically and statically balanced impellers in the exhauster, the machine operates with little vibration or noise.

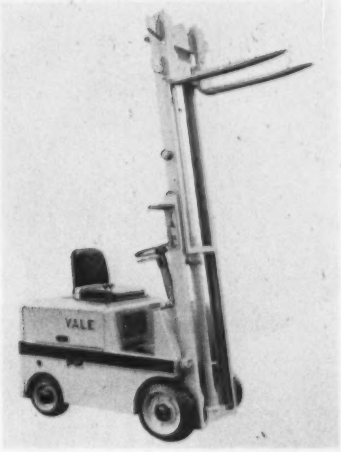
U. S. Hoffman Machinery Corp., Air Appliance Div., 105 Fourth Ave., New York, N. Y.

For additional data, request item G-228, using Handy Return Card on page 176.

Gasoline Fork Lift Trucks Are More Compact, Easier to Handle

An entirely new series of compact gasoline fork lift trucks with a high power-weight ratio, is called the G-52 Series. The trucks are available with pneumatic or solid tires in 2000-, 3000-, and 4000-pound capacity models.

NEW Equipment AND MATERIALS



Yale & Towne's new compact gasoline fork lift truck.

Developed to fill a demand emphasized by a survey made in scores of plants and warehouses throughout the country, the trucks are smaller, more powerful, more maneuverable, more efficient, and more versatile.

Typical of the series is the 2000-pound capacity model. The other 3000- and 4000-pound models vary from it only in being slightly larger and equipped with a more powerful engine.

The 2000-pounder can negotiate a right angle corner in a 57-inch aisle or right angle stack in a 112-inch aisle. Built on a 43-inch wheelbase—scarcely longer than the forks themselves—its overall length is only 72 inches. Overall width to the outside of the tires is 32½ inches.

Powered with a 25-hp engine, it reaches a top speed of 8 mph through a transmission with two speeds forward and two speeds reverse. The fluid coupling provides the smooth operation of big trucks.

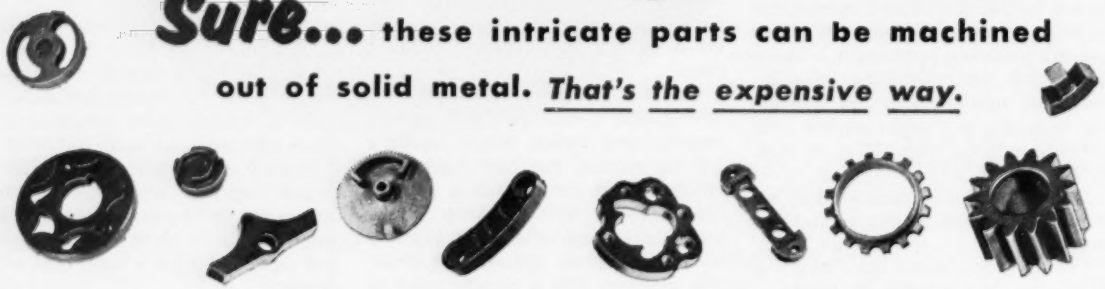
Lift speed without any load is 55 feet per minute, with a full load, 50 feet per minute. Lowering speed ranges from 65 feet per minute with no load to 75 feet per minute with full load. Low hydraulic pressure gives positive control action but puts only low pressures on wearing surfaces and gives long packing life.

Yale & Towne Mfg. Co., Philadelphia, Pa.

For additional data, request item G-227, using Handy Return Card on page 176.

YOU SAVE WHEN YOU USE OILITE FINISHED MACHINE PARTS

Sure... these intricate parts can be machined out of solid metal. *That's the expensive way.*



But... these FINISHED MACHINE PARTS are being made by OILITE *at a Fraction of the Cost.*

Oilite Finished Machine Parts serve the same purpose as conventional "machined" parts. Their performance is just as good, often better, because they can be self-lubricating and made to closer precision tolerances.

Recent achievements by Oilite Research have materially broadened the scope and application of Oilite — Products of Metal Powders.

AMPLEX
DIVISION OF CHRYSLER CORPORATION
Detroit 31, Michigan, Dept. M

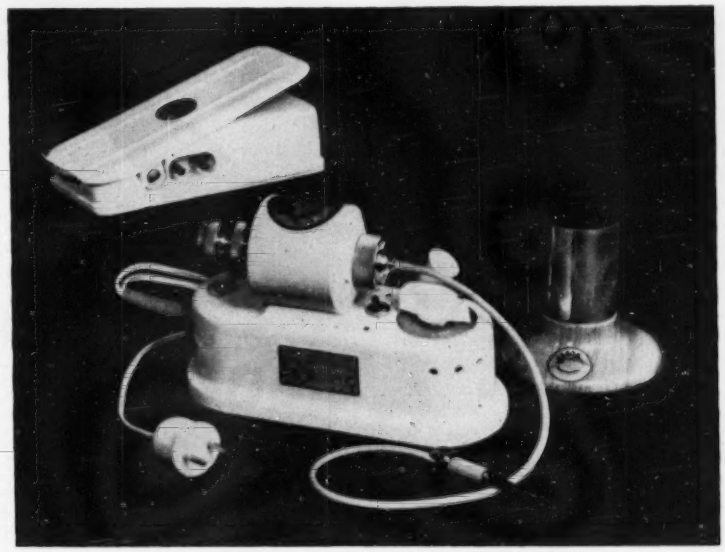
6761

Call an Oilite Engineer. Let him develop your ideas. He will suggest ways and means for decreasing your part costs and show you how to attain other important goals.

FIELD ENGINEERS, DEPOTS AND DEALERS THROUGHOUT UNITED STATES AND CANADA

Oilite Products of Metal Powders Include:
BEARINGS, FINISHED MACHINE PARTS, CORED AND SOLID BARS, PERMANENT FILTERS AND SPECIAL UNITS

NEW Equipment AND MATERIALS



Equipment for repairing runs in hosiery (Arno Lohmueller).

Attachment for Frame Cleaner Sweeps Floor

An attachment for frame cleaners consists of a flexible extension reaching to the floor. The cleaner to which it is attached runs over spinning frames, winders, etc., while air from outlets in the floor sweeper moves lint from under the frame until it is caught by air from floor sweepers on adjacent units and so moved to a central alley or to a wall alley for easy removal.

Existing frame cleaners can be converted to accept the floor cleaner attachment.

Parks-Cramer Co., Fitchburg, Mass.

For additional data, request item G-342, using Handy Return Card on page 176.

For Low Cost Run Repairs on Sheer Hosiery

Immediate reaction to foot-pedal control, low power consumption, silent operation, durability, and small size are advantages of the German-made Kolibri machine for repairing runs in hosiery.

Consisting of the foot-pedal control, stocking and needle holder, and traceless working needle, the equipment can be used to invisibly reknit the finest nylon, Perlon, and other hosiery at a speed of 3,000 strokes per minute. Within 1/50 second the needle accelerates to a speed of 3,000 strokes per minute; likewise, within 1/50 second, it comes to a stop, eliminating danger of needles and stockings being damaged because the machine failed to stop soon enough.

Compression needed to operate the needle is obtained by a new electro-dynamic arrangement—there is only one moving part, thus long life is assured.

Arno Lohmueller KG - Berlin-Friedenau, Suedwestkorso 3, West Germany.

For additional data, request item G-215, using Handy Return Card on page 176.

Loom Picking Motion Machined for "Perfect" Paralleling

Now on the market is a parallel picking motion made of malleable iron, hardened to overcome breakage and wear and machined with a flat milled surface for correct travel of the parallel shoe.

Constructed with ears to insure correct throw of the shuttle (in line with reed) for the life of the parallel, the unit is assembled with replaceable, hardened steel stamping instead

TOP QUALITY!
FAST DELIVERY!

Now you can get genuine Diamond Fibre Roving Cans in the popular 15" size faster and better! Production has been increased to meet all demands for this size. Stocks are big enough for prompt delivery of these superior cans.

Diamond Fibre seamless cans are strong, tough, smooth, with a long work life. Interior has a porcelain-like surface which will not crack, chip, or soften. Choice of steel top rim, rolled fibre top rim for running synthetics, or reinforced turned fibre rim.

Get in touch with C-D-F's Textile Headquarters at 834 Hayne Street, Spartanburg, So. Carolina (call Spartanburg 3-6397). Write for new folder and Receptacles Catalog showing all C-D-F roving cans, trucks, boxes, loom parts.

C-D-F
Continental-Diamond Fibre
CONTINENTAL-DIAMOND FIBRE COMPANY
NEWARK 11, DELAWARE

Sulphonated Oils

STILL FIRST IN TEXTILE PROCESSING

Great progress has been made in surface-acting agents during the most recent years. Still, the tremendous value of Sulphonated Fatty Oils in the wet processing of textiles has never been questioned. Continued and increasing uses are being found in dyeing and finishing textiles for Monopole Oil (a double sulphonated castor oil), Olive, Teaseed and other fatty oils. This is because of the soft, full hand which sulphonated oils impart, as well as the lubricating qualities which are distinctly theirs.

There is a definite return to these products by numberless mills. And Jacques Wolf, with fifty years experience as the leading sulphonator, is offering Sulphonated Fatty Oils with advanced methods of sulphonation . . . oils with increased value for all purposes in textile processing. May we have your inquiries? Samples, of course, on request.

Sulphonated: Castor Oil 40-90% • Coconut Oil • Cod Oil • Mineral Oil • Neatsfoot Oil • Olive Oil • Peanut Oil • Pine Oil • Red Oil • Sperm Oil • Tall Oil • Teaseed Oil • Monopole Oil (a double sulphonated castor oil)

JACQUES WOLF & CO.
Chemicals PASSAIC, N.J.

Plants in: Clifton, N.J., Carlstadt, N.J., Los Angeles, Calif.

of conventional parallel plug or wedge.

A new locking stud (instead of set screws) permits a correct and permanent alignment of complete parallel motion, when locked into position on rocker shaft.

H. F. Livermore Corp., Allston Station, Boston 34, Mass.

For additional data, request item G-307, using Handy Return Card on page 176.

Yarn Pre-Shrinking and Setting Machine Features Uniformity

For pre-shrinking and setting all high-twist and elastic yarns is the "Vacuset" machine which (1) sets twist with uniformity within each lot and from lot to lot, (2) produces better quality yarn, and (3) is completely automatic—the operator's task is confined to loading and unloading the machine.

Thorough penetration of the yarn by the steam as it enters the machine is achieved through a strong vacuum created by a pump. During the setting process, when the vacuum is expelled, steam rushes in and penetrates all the yarn in the machine.

Other features: All heavy stainless steel construction; designed to reach 275 F; automatic controls for temperature and timing the whole operation.

Burlington Engineering Co., Inc., Graham, N. C.

For additional data, request item G-121, using Handy Return Card on page 176.

Hand Oiler Can Be Disassembled Quickly for Cleaning

A new line of hand oilers can be completely disassembled in 30 seconds for cleaning. Another feature of the K-P Oiler is the interchanging of the spouts and nozzles. Flexible and rigid spouts of varying lengths are available; also nozzles of different shapes and output capacities. All nozzles and spouts adapt to each other.

Practically any liquid can be used in the oiler. Further, with the take-down cleaning feature, it is also possible to use different liquids in the same unit.

Parts for the K-P Hand Oiler line are all replaceable, singly or in a group.

Available for this line is a handy, removable wall holder, or a new detachable non-tip base (optional).

There are sixteen (16) different size models ranging from 6-oz capacity to one qt capacity.

K-P Mfg. Co., 1226 Linden Ave., Minneapolis, Minn.

For additional data, request item G-226, using Handy Return Card on page 176.

Napper Controls Power on Napper Rolls, and to Feed Cloth Through

The Gessner Hi-Torc napper offers higher production capacity, improved quality of napped finishes, and an increased variety of finishes. Smoothness of the hydraulic drive has been combined with electro-mechanical precision in this machine.

This napper controls and regulates (1) the amount of power or torque required to operate the napping rolls, and (2) the power or pull necessary to feed the cloth through the machine.

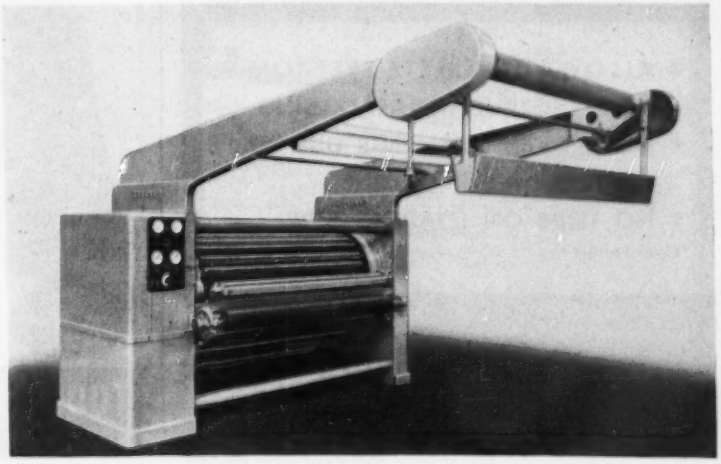
This machine has produced as much as eight times the production of previous nappers, with subsequent and equal savings in production costs and in labor to the mill.

The instrument panel indicates the speed settings and pressures used to control the action of the machine. This panel makes it possible and simple to re-establish any previous work settings and therefore to obtain uniform results at all times.

David Gessner Co., Worcester, Mass.

For additional data, request item G-368, using Handy Return Card on page 176.

The Gessner Hi-Torc napper.



NEW Equipment AND MATERIALS

Individual Card Drive Easy to Install, Speeds Production

More production, cleaner product, no vibration or strain on the card arch, easy installation, little maintenance required, and reduced hazard to personnel are advantages to be derived from the new Allis-Chalmers individual card drive which mounts directly on present card cylinder shafts, thus requiring little or no more space than an overhead drive. A torque arm attached to the card keeps it in place.

Lint and dirt are swept in, out, and away from the 1½ hp, 1740 rpm, Type GQ, continuous rated 40 C rise motor by powerful fans. All exposed surfaces are smooth and hard.

Single-groove, B-section Texrope adjustable sheave permits setting card cylinder at any speed between 157 and 189 rpm. One size B-35 Texrope V-belt provides smooth, cushioned drive. Mercury clutch with single groove sheave for V-belt develops ample torque to start and accelerate card and permits use of standard torque motor. Jack screws in steel motor support plate take up V-belt stretch and allow for speed adjustment. Falk right angle gear reducer is equipped with anti-friction bearings operating in oil.

Allis-Chalmers, Milwaukee 1, Wis.

For additional data, request item G-109, using Handy Return Card on page 176.

Headless Package Twister Three Machines in One

A headless package twister, called the U. S. Acme Jumbo Double Deck Twister, is virtually three machines in one. It can be used as a conventional up-twister; a "headless package" twister with tapered end attachments, stationary mandrels for paper or bakelite tubes, and stop motions; and the third application of this versatile unit is quickly and simply accomplished by disengaging or taking off the tapered end attachments for use of straight end bobbin type take-up spools with stop motions for Helanca, crepe or tricot yarn twisting (high or low twist).

This twister is a narrow width machine that saves mill floor space. It handles all types of synthetic yarns on straight, conical or bottle type supply packages. The machine has a completely new, shock-proof traverse motion with provision for increasing or decreasing the length of the traverse stroke. Independent traverse arms for each side of the machine and each deck provide for operation with spools on one side and headless packages on the other, as well as permitting changes from one type package to another without changing cams or purchasing additional operating parts.

The machine is equipped with roller bearing spindles and ball bearing idlers. Spindle spacing, as well as yarn package size, is designed to meet the requirements of each installation.

U. S. Textile Machine Co., Scranton 8, Pa.

For additional data, request item G-332, using Handy Return Card on page 176.

Quick-Opening Door Is Exclusive Feature of this Barotor

Opening and closing the door of the Barotor (pressurized fabric dyeing machine developed by Du Pont) being manufactured by Wiesner-Rapp is faster and simpler because of an exclusive feature—the quick-opening door. Considerable reduction in dyeing cycle is thus made possible.

Other advantages to be derived through use of the Barotor for dyeing fabrics are:

(1) Fabric is under no tension and at open width at all times.

(2) Uniform and frequent bath contact.

(3) Rapid bath circulation and agitation.

(4) All woven fabric constructions can be processed, both filament and spun yarns.

(5) Widely adaptable for batch size.

(6) No need for attention during dyeing.

(7) Fabric sampling and bath additions made while machine is in operation.

The Wiesner-Rapp Co., Inc., 1600 Seneca St., Buffalo 10, N. Y.

For additional data, request item G-325, using Handy Return Card on page 176.

Versatile Raw Stock Waste and Staple Cutter

The Pacific raw stock waste and staple cutter prepares fibers for the woolen system, or other processing systems requiring similar fiber lengths, from long-fiber raw wool, raw mohair, etc., as well as from tow and various wastes. The operation is

The New

HEANIUM®

DROP WIRE GUIDE

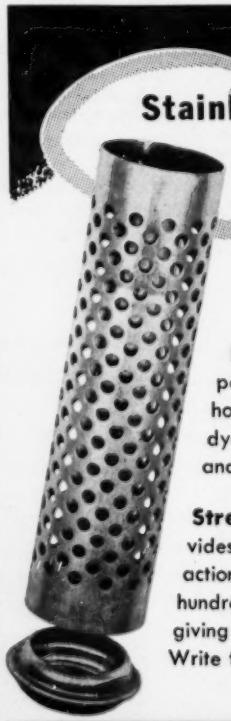
- ALLOWS COMPLETE FREEDOM FROM OBSTRUCTION IN LOADING.
- NO BROKEN FILAMENTS DUE TO LOADING.
- NO WIRE ON LOADING SIDE.

*Patent Pending

Southern Representative
Ralph Gossett & Company
Greenville, So. Carolina

New England Representative
American Supply Co.
Central Falls, R. I.

HEANIUM — *the best guide to lower costs.*
HEANY INDUSTRIAL CERAMIC CORP. New Haven 3, Conn.



Stainless Steel Dye Tubes

. . . for your package dyeing machines

Precision Built: These tubes are perfectly sized for roundness, and holes are evenly spaced for uniform dye penetration. Ends are 100% level and rounded to prevent snagging.

Strength: Type 304 stainless steel provides great resistance against crushing action and passes all acid tests. Several hundred thousand of these tubes are now giving perfect service in Southern dye plants. Write for quotations.

TOOL SERVICE ENGINEERING CO.
309 W. Crowell St. Monroe, N. C.

cheaper and faster and produces fibers of pre-determined maximum length.

Two cutter rolls of opposite hand are utilized to produce a "diamond cut" pattern on the sheet or layer of fibrous material as it passes through. A variety of "diamond cuts" may be obtained by using the cutter rolls in different combinations.

By use of one cutter roll a set stapie length may be obtained on continuous filament rather than the diamond shaped pattern.

Fibers are fed to the machine by an automatic feeding device, or may be fed by hand.

Production rates over 400 pounds per hour have been obtained on materials which lend themselves to a smooth, even feed. The machine is extremely versatile in its ability to handle a variety of fibers, while the production is unaffected by the length of cut desired.

Anderson Machine Shop Inc., Brook Road, Needham Heights 94, Mass.

For additional data, request item G-101, using Handy Return Card on page 176.

Spindle Tape Is Stretch-, Lint-, and Fire-Resistant

A new type of spindle tape for spinning and twisting operations utilizes Firestone Velon yarn. Woven by the Russell Manufacturing Co., Middletown, Conn., and developed in conjunction with Firestone textile engineers, the new tape provides stretch resistance, lint resistance, fire resistance, and longer wear.

Since it will not stretch, the tape retains a more constant spindle speed ratio. This results in less power consumption because of reduced slippage and running at constant speed.

Resistance to lint is brought about by the fact that Velon tape is woven with a nylon filling. As the electric polarity of Velon is positive and that of nylon is negative, a neutrality is effected which resists foreign particles, preventing tape slippage due to lint accumulation. Velon tape has been found to continue free from lint contamination throughout the life of the tape. Because Velon yarn is non-combustible and self-extinguishing, damage from fire is kept to a minimum.

Increased service, often as great as 63 per cent, over conventional tapes has been indicated in operational tests.

Firestone Plastics Co., Pottstown, Pa.

For additional data, request item G-220, using Handy Return Card on page 176.

NEW Equipment AND MATERIALS

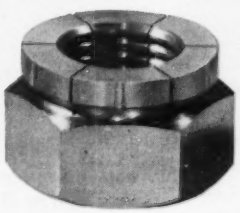
Stainless Steel Bristles for Worsted Combing Have Long Life

Elm-Tex stainless steel bristles, in use for several years on cotton combs, are now available for the noil brushes of Bradford and French worsted combs. Cores now in use can be refilled with the stainless steel bristles.

The first Bradford-system noil brush was refilled in May 1952 and is still operating with no signs of wear.

The original French-system instal-

one standard FLEXLOC SELF-LOCKING NUT

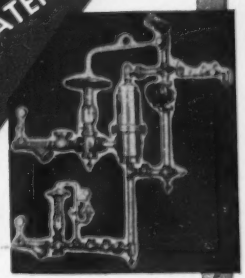


covers temperature range to 550°F

Because they are all metal and require no auxiliary locking device, FLEXLOCS lock and stay tight even at higher temperatures. See your local industrial distributor for literature and samples or write STANDARD PRESSED STEEL Co., Jenkintown 34, Pa.

FLEXLOC LOCKNUT DIVISION SPS JENKINTOWN PENNSYLVANIA

Insist on Pick INSTANTANEOUS HOT WATER HEATERS



SAVES MONEY IN ALL TEXTILE WET PROCESSING

IN DAILY USE at . . .

Bates Mfg. Co.
Exeter Mfg. Co.
Pepperell Mfg. Co.
Fieldcrest Mills
Don River Mills
Pendelton Woolen Mills
and many others.

Write Dept. T1254 for booklet on how Pick Heaters cut costs of hot water. No Obligation.

PICK GIVES YOU MAXIMUM EFFICIENCY

★ Water Is Heated INSTANTLY by steam injection. Fuel savings are substantial because there is no waste — water is heated only as used.
★ Pick Heaters Maintain Continuous Flow at preset temperature for bleaching, dyeing, scouring, etc.
★ Safe, Quiet Operation. Exclusive "Pressurizer Piston" assures maximum safety and eliminates hammer, noise and vibration on continuous or "start and stop" loads.
★ No Storage Tanks Required. Pick Heaters are compact — can be installed in corners, on walls or overhead. Saves valuable floor space.
★ Many Other Cost-Reducing Advantages. Maintenance cost is remarkably low because Pick Heaters can be cleaned in a matter of minutes. Installation is simple and inexpensive . . . only ordinary pipe connections are required.

PICK MANUFACTURING CO.
WEST BEND, WISCONSIN

NEW Equipment AND MATERIALS

lation was made in February 1953 and has since run for over 11,000 operating hours, during which time the nipper blades have been reset only once. In addition to long life, the bristles also clean and burnish the half laps and help to reduce machine down-time.

Elmwood Brush Co., 116 Pleasant St., Easthampton, Mass.

For additional data, request item G-356, using Handy Return Card on page 176.

Electric Heaters for 5-Gallon Pails Heat Uniformly

Handy, new electric heaters for five-gallon drums are especially suited to heating dyes and chemicals for the textile industry and substances which might be damaged by overheating. Heat is applied uniformly at every point around the drum sides, and it can be of such a gentleness that melting points are not exceeded if necessary.

Pail heater (Pre-Fab Heater Co.).

The heater simply wraps around the drum and is held secure with snap fasteners. A blanket of fibrous glass can be used to surround the heater and drum, thereby increasing heat-up speed.

Constructed of alloy resistance wire, the heater is covered with suitable insulation for electrical safety and an outer braid for wear resistance.

Pre-Fab Heater Co., Guilford, Conn.

For additional data, request item G-502, using Handy Return Card on page 176.

Continuous V-Belt Drive for Dry Cans

Advantages of a continuous V-belt drive for dry cans are:

1. Elimination of re-runs due to grease spots;
2. Accessibility of drive reduces maintenance costs;
3. Lower break-down time;
4. Quieter operation.

Morrison Machine Co., 1171 Madison Ave., Paterson 3, N. J.

For additional data, request item G-313, using Handy Return Card on page 176.

News in Brief

(Continued from page 61)

el is in operation at the Association's Nottingham laboratories, but commercial production is said to be at least three years away.

Textile Quality Control Course. A short course in textile quality control will be held at the School of Textiles, N. C. State College, Raleigh, N. C., August 9 to 13, under the supervision of Professor D. S. Hamby, from whom information regarding the course may be obtained.

Stream Pollution Bibliography. The Stream Pollution Committee of the American Association of Textile Chemists and Colorists will soon publish a 100-page bibliography intended for the use of mills with waste disposal problems.

Bright Outlook for Wool. The outlook for wool in the consumer goods market appears very optimistic, according to The Wool Bureau's Director of Economics and Statistics, Ruth Jackendoff. She bases her observation on the factors of increased consumer incomes, expanding population, reasonable price levels for wool goods, and the elimination of excess capacity, which has resulted in a tighter and more efficient industry.

Textile Mill Situation. Mill margins are narrow on most constructions. Mill stocks are about one-half the unfilled orders. Many mill men express confidence in some improvement in textiles from midsummer forward — National Bank of Commerce, Memphis, Tenn.

New England Textile Facts. A new "Fact Book" published by the National Association of Cotton Manufacturers gives the current facts on New England's textile mills. Sample facts: There are 125 textile mills in the six New England states. These mills produce more than 1.25 billion yards of goods each year, employ 65,000 men and women, and have an annual payroll of $200,000,000. New England mills have spent $185,000,000 in modernization of plant and equipment since the end of World War II.

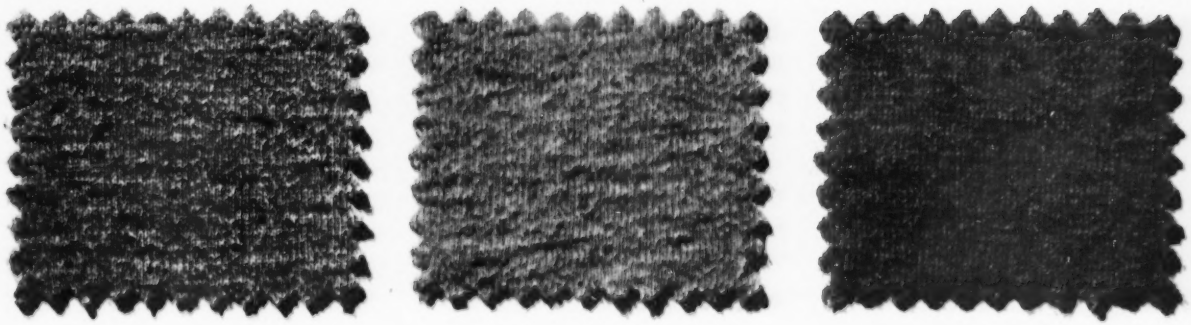
Schools to Receive Knitting Machines. Latest model knitting machines will be presented to the various textile schools under the Edward T. Taws Plan, named for the president of the H. Brinton Co. First schools to receive the machines are Philadelphia Textile Institute, N. C. State College School of Textiles, Clemson, Georgia Tech, and Lowell Technological Institute. Other textile schools will receive machines by the end of the year.

Dyeing "ORLON"*-wool blends?

You can get . . .

balanced shades in union dyeings . . .

striking contrasts with cross dyeings . . .



subtle shades for tone-on-tone or white heathers . . .

with Du Pont's new range of basic dyes

Du Pont Dyes

DU PONT

REG. U.S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING
. . . THROUGH CHEMISTRY

These colors—applied to "ORLON" Type 42 staple—stain wool only slightly. Therefore, when used with acid or chrome colors for the wool, "ORLON"-and-wool blends can be dyed in single-bath applications.

The sample swatches above give an indication of some of the new, bright shades you can achieve for these blends. The colors will show good light fastness and excellent wet fastness. If you are working on "ORLON"-and-wool blends—or plan to—be sure to get further information on this new range of basic dyes. For information, or for technical help with coloring problems, write to E. I. du Pont de Nemours & Co. (Inc.), Dyes and Chemicals Division, Wilmington 98, Delaware.

**"ORLON" is Du Pont's trade-mark for its acrylic fiber.*

FULL WIDTH SAMPLES FROM A FEW POUNDS OF YARN . . .

Produced by the Callaway SAMPLE & RESEARCH SLASHER

A Small Versatile Slasher Particularly Designed for

SAMPLES

TESTING

PILOT PLANTS

and RESEARCH

This new all-electric Callaway Slasher is a complete and efficient slashing unit designed particularly to fit the slashing requirements of mills which must prepare a lot of samples. It is also ideally suited for research, testing and pilot plant operations.

Using a minimum amount of yarn—cotton, synthetic, silk, wool or worsted—direct from individual packages, without warping or beaming, this little slasher is proving it can save space and money in slashing samples . . . Full-width samples without tying up a production slasher—and from less yarn.

From the stainless steel size box through the four 8″ face electrically-heated drying cylinders to the head end, essential controls and adjustments are provided for all phases of operation. Speed can be regulated from five to forty yards per minute.

At reasonable initial cost and low operating expense, this new, versatile Slasher answers many small-run slashing problems.

We will be glad to furnish you with complete details without obligation.

WPF&M WARP PREPARATION MACHINERY

AIR-DRI SLASHERS
MULTI-CYLINDER SLASHERS
CYL-AIR SLASHERS
CALLAWAY SAMPLE SLASHERS
WPF&M HI-SPEED 4 CYLINDER SLASHERS
STANDARD 2 AND 3 CYLINDER SLASHERS

SLASHER MODERNIZATION EQUIPMENT

HI-SPEED HEAD ENDS
SPECIAL WIDTH HEAD ENDS
ADDITIONAL CYLINDERS
MULTI-MOTOR DRIVES
STRETCH CONTROL UNITS
EQUI-TENSION CREELS
TEMPERATURE, SPEED AND TENSION CONTROL DEVICES
SIZE BOXES, SIZE KETTLES, AND SIZE PUMPS

CORDUROY CUTTING MACHINES AND BRUSHERS

WEST POINT FOUNDRY & MACHINE CO.

WEST POINT, GEORGIA

HELPFUL BOOKLETS FREE!

On this and the following pages is an excellent library of free textile literature. Select the books which will be helpful to you and list their numbers on the coupon.

Mail to TEXTILE INDUSTRIES.

★ ★ ★ ★ ★ ★ ★ ★ ★ ★

7-1 Wet Finishing Machinery. Bulletin by Rodney Hunt describes entire line of Wet Finishing machinery. Picture of each machine is included along with comments concerning application. Write Rodney Hunt Machine Co., 35 Mill St., Orange, Mass.

7-2 Machine For Controlled Sizing. Booklet describes the operation, legend and specifications of the Griffin Size Machine for controlled sizing. Shows how machine amortizes its cost through increased loom efficiency. Write Ira L. Griffin & Sons, P. O. Box 1576, Charlotte, N. C.

7-3 Metered Lubrication for Textiles. Color Brochure tells the advantages of Bijur Centralized Lubrication in every stage of Textile manufacturing. Plan saves oil, eliminates product spoilage, improves plant safety. Write Bijur Lubricating Corporation, Rochelle Park, New Jersey.

7-4 Strip-Free Card Clothing. 8-page color brochure gives particulars of STRIP-O-MATIC, the virtually strip-free card clothing for all textile fibers. Write Benjamin Booth Co., Allegheny Avenue at Janney Street, Philadelphia, Pa.

7-5 New AlSiMag Thread Guide Catalog. Catalog by American Lava will serve as a handy reference for anyone connected with the textile industry. It covers everything from materials and polishes to guides for specific textile machinery. Write American Lava Corporation, Chattanooga 5, Tennessee.

7-6 Circulars Available from Birch Brothers. Circulars now available on following subjects: No. 1153, "Supreme" Butt-Seam Sewing Machine; No. 1180, machine for saturating and treating cotton tufted carpeting; No. 1176, patented Stainless Steel Electrically Conical Opener or spreader and guider; No. 1166, Wide Squeeze Roll Unit. Write Birch Brothers, Inc., 32 Kent St., Somerville 43, Mass.

7-7 Loom Switch. New design switch is fully described in circular by Arrow-Hart & Hegeman. Features fully enclosed, vibration-resistant mechanism, lint-proof enclosure. Size 0, 2 H.P. to 600 volts A-C. Write Arrow-Hart & Hegeman Electric Co., Hartford 6, Conn.

7-8 Hydraulics for Textile Machinery. Booklet describes advantages offered builders and users of textile machinery by Vickers Oil Hydraulic Power and Control. Write Vickers, Inc., 1400 Oakman Blvd., Detroit 32, Mich.

7-9 All Purpose Air Control Equipment. Bulletin shows how air control equipment offered by Perfecting Service Co. can mean closer regulation, cleaner air, automatic lubrication, automatic draining. Pictures and specifications of each piece of equipment included. Write Perfecting Service Co., 332 Atando Ave., Charlotte 6, N. C.

7-10 Engineered Rubber for Textiles. Booklet describes products applicable to textiles, giving construction and performance. Includes well type mountings, rolling joint mounting, bushings, and bearings, special mountings, etc. Write General Tire and Rubber Co., Mechanical Goods Division, Wabash, Indiana.

7-11 Cotton Gearmotor Drive. Bulletin discusses advantages such as simple and speedy changeover from conventional belt drives, dependability and ease of maintenance, increased production and personnel safety. Write for bulletin B-6375, Westinghouse Electric Corp., Box 2099, Pittsburg 30, Pa.

7-12 Analysis of Liquid Chlorine and Bleach. Contains 72 pages of text, tables, charts, and indexes. Includes adding of new reagents, indicators, and standard solutions, etc. Write for bulletin No. 12, Solvay Process Division, Allied Chemical and Dye Corporation, 61 Broadway, New York 6, New York.

7-14 Discount Plan of Loom Parts. Booklet by Livermore describes particulars of the HFL year-end discount plan. Rate is based on entire year's purchases, ending December 31st. Write H. F. Livermore Corporation, Allston Station, Boston 34, Mass.

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17. **A FAIR DAY'S PAY AND IN RETURN A FAIR DAY'S WORK** — 8-page booklet outlining the services offered to industry for the proper utilization of labor, material and equipment, and the resulting advantages for both labor and management. —AMERICAN ASSOCIATED CONSULTANTS, INC., 250 Park Ave., New York, N. Y.

19. **INDUSTRIAL BUILDING** — A 32-page booklet entitled "U.S.S. 12, U.S.S. 17 Stainless Steel Walls and Roofs for Industrial Buildings," is now available for distribution. This publication illustrates the use of type 410 and type 430 Stainless Steel Sheets in the construction of industrial and semi-industrial buildings. — U. S. STEEL CO. 525 William Penn Pl. Pittsburgh 30, Pa.

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PLANT & PLANT MAINTENANCE . . .

102. **"TANK TALK"** — Sixteen page booklet of illustrations showing various types of elevated steel tanks constructed and erected by manufacturers as well as stand pipes, reservoirs, storage and high pressure vessels, cylinders, along with helpful technical data. Also a list of what a few of the cotton mills, etc., said. — R. D. COLE MANUFACTURING COMPANY, Newnan, Ga.

103. **HUMIDIFICATION, EVAPORATIVE COOLING** — Bulletins available displaying AMCO automatic self-cleaning atomizers, controls, and evaporative cooling equipment. — AMERICAN MOISTENING CO., 260 W. Exchange St., Providence, R. I.

107. **FINNELL SCRUBBERS** — Illustrated leaflets describing and giving specifications for the Finnell floor scrubbing machines. — FINNELL SYSTEM, INC., Elkhart, Ind.

108. **MAPLE FLOORING** — Booklet describing finishing of Northern Hard Maple Flooring — list of M.F.M.A.-approved heavy-duty floor finishes. — MAPLE FLOORING MANUFACTURERS ASSOCIATION, Pure Oil Bldg., 35 East Wacker Dr., Chicago 1, Ill.

113. **COTTON MILL EQUIPMENT** — This book traces pictorially the steps in processing raw cotton into finished cloth. It shows the equipment needed for all phases of production as well as containing a "Useful Information" section on Power Factor Correction, Lighting, Circuit Protection, etc. — WESTINGHOUSE ELECTRIC CORP., 511 Wood St., Pittsburgh 30, Pa.

117. **CLEANING SYSTEMS** — Booklet entitled "Certified Climate and Cleaning Systems" gives latest information on system. Products and uses fully discussed with two story layout of Certified Climate central station air conditioning system. — PARKS-CRAMER CO., Fitchburg, Mass., and Charlotte, N. C.

127. **SOLENOID VALVES** — Bulletin "V" lists sizes from 1/2 inch to 3 inches; valves for normally open or closed service; stainless steel or Jenkins disc seats; three way solenoid valves, etc.; typical installations. — THE JOHNSON CORP., Three Rivers, Mich.

129. **AIR CONDITIONING AND HUMIDIFICATION** — Catalog section 101 lists and briefly describes each item of the complete Bahnson line of equipment for textile mill air conditioning and humidity control. — THE BAHNSON COMPANY, Winston-Salem, N. C.

131. **"AIR PROCESSING"** — Set of three bulletins showing real meaning of the term, where it can be used, the requirements for a successful system, etc. — J. O. ROSS ENGINEERING CORP., 444 Madison Ave., New York 22, N. Y.

135. **COLOR CONDITIONING** — Booklet illustrated in color describes how Du Pont color conditioning puts color to work for you. Many ideas on safety brought out which color can aid. — E. I. Du PONT DE NEMOURS & CO., INC., Finishes Div., Wilmington 98, Delaware.

136. **METAL CONVEYOR BELTS** — Recent catalog describes and illustrates Ashworth's entire range of manufacture, including the new Flat Wire Belt design and application, along with their Woven Wire constructions and Positive Drive Chain Edge belts. — ASHWORTH BROS. INC., Metal Products Div., Fall River, Mass.

146. **FUNCTIONAL GLASS BLOCK DATA** — Folder shows in detail daylighting function of Light-directing and Light-diffusing Functional Glass Blocks. —PITTSBURGH CORNING CORP., 307 4th Ave., Pittsburgh 22, Pa.

150. **RINCO HUMIDIFIERS AND COOLING SYSTEMS** — Bulletin describes new atomizers with construction lessening air consumption in humidifier systems, evaporative cooling systems. — ALDRICH MACHINE WORKS, Greenwood, S. C.,

151. **INDUSTRIAL BRUSHES** — Illustrated booklet of industrial brushes featuring textile usage on shears, printing machines — also flock, raising and cylinder brushes. — M. W. JENKINS SONS, INC., 444 Pompton Ave., Cedar Grove, N. J.

153. **LAMINATED TEXTILE PLASTICS** — Booklet by Synthane Corporation shows variety, application, and advantages of laminated plastic parts and supplies for the textile industry. — SYNTHANE CORPORATION, Textile Division, Oaks, Penna.

154. **AIR CONDITIONING FOR THE TEXTILE INDUSTRY** — Booklet shows advantages of air conditioned mills in better products and more efficient workers, and gives values of White & Co. air conditioning in particular. — WHITE & CO., Inc., 1440 S. Tryon St., P. O. Box 533, Charlotte, N C.

156. **FLOATING BOTTOM ROVING TRUCK** — Booklet by Excel Textile Supply shows advantages of roving truck with automatically adjusted bottom. Eliminates reaching over into truck by keeping lead level within easy reach of operator. — EXCEL TEXTILE SUPPLY CO., Lee Ave., Lincolnton, N. C.

161. **AUTOMATIC CLEANING EQUIPMENT** — complete booklet by American Monorail shows working details and advantages of the Tri-Rail Cleaner, a great improvement over the original unit. — AMERICAN MONORAIL CO., 1310? Athens Ave., Cleveland 7, Ohio.

162. **MODERN METHODS OF TEXTILE FLOOR MAINTENANCE** — Illustrated treatise on the history of floor cleaning in textile plants and a detailed description of new methods for reducing floor cleaning costs as well as preserving textile mill floors. — G. H. TENNANT COMPANY, 2530 N Second St., Minneapolis 11, Minn.

166. **MACHINE BRUSHES** — Illustrated Folder shows many types of machine brushes and describing their particular use for printing, washing, brushing, singeing, and shearing is sent free upon request. — INDUSTRIAL BRUSH COMPANY, INC., Woodside Avenue, Little Falls, New Jersey.

173. **BLOWERS AND EXHAUSTERS** — Bulletin No. 3014-D describes types "E" and "RE" electric blowers and exhausters. Uses and full description of each with detail drawings.—BUFFALO FORGE CO., 490 Broadway, Buffalo 5, N. Y.

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176. **STOKERS AND BOILERROOM EQUIPMENT** — For information on boilerroom problems, improvements and apparatus. — McBURNEY STOKER CO., 2110 Peachtree Rd., Atlanta, Georgia.

179. **BETTER WAYS** — Form 2029, condenser catalog of standard and special model Toledo Industrial Scales that are being used in receiving, shipping, and production operations by all industries including the textile field. — TOLEDO SCALE CO., Box 97, Toledo, Ohio.

181. **AIR FILTRATION** — Bulletin 234 describes and illustrates the Auto-Airmat, which is the Automatic Dry-Type air filter. Principle of operation, performance characteristics, construction and installation fully discussed. — AMERICAN AIR FILTER COMPANY, INC., 375 Central Ave., Louisville 8, Ky.

188. **PROGRESSING-CAVITY PUMPS** — A new principle in pumps. Self-priming, positive displacement, uniform flow features discussed. — ROBBINS & MYERS, INC., Pump Div., Springfield, Ohio.

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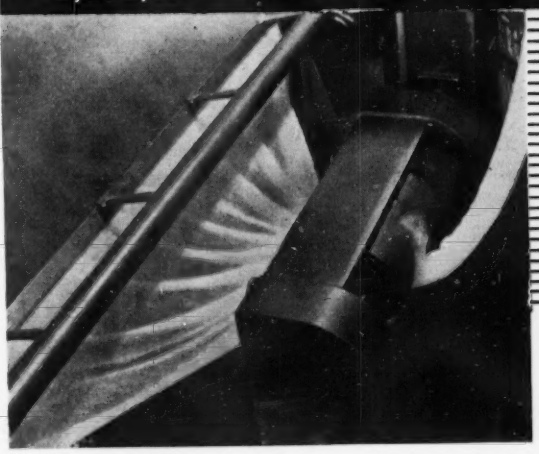

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227. WOOLEN AND WORSTED MILL ELECTRICAL EQUIPMENT — Booklet by Westinghouse follows processes through the mill and shows application and advantages of Westinghouse equipment. — Write for: B-4698, WESTINGHOUSE ELECTRIC CORP., Box 2099, Pittsburgh 30, Pennsylvania.

229. DODGE GENERAL POWER TRANSMISSION MACHINERY — Catalog describes various types of power transmission apparatus by Dodge. Gives specifications, sizes applications and prices. Very comprehensive. — DODGE MANUFACTURING CORP., Mishawaka, Indiana.

235. JOHNSON LEDALOYL BEARING BRONZE —Illustrated booklet telling the complete story of Johnson Ledaloyl Bronze, the newest development in self-lubricated bronze for textile bearings and bushings. — JOHNSON BRONZE COMPANY, New Castle, Pa.

237. SPECIAL TEXTILE MOTORS — Bulletin 51B6055A describes special features of "Quick-Clean" motors, including discussion on free air flow, prelubricated bearings, rigid cast iron frame and double insulation. — ALLIS-CHALMERS MFG. CO., Milwaukee, Wis.

237. MOTOR CONTROL — Brochure gives description and engineering data on the Cutler-Hammer Motor Control for roving and spinning frames. Users listed and advantages discussed. — CUTLER-HAMMER INC., Milwaukee, Wisc.

238. TEXTILE LEATHERS CATALOG — Catalog by J. E. Rhoads & Sons gives characteristics and advantages of Rhoads "Tannate" leathers. Complete line is listed and described, and tips for correct installation. Copiously illustrated. — J. E. RHOADS & SONS, 35 North Sixth St., Philadelphia, Pa.

239. LICKERIN AND DOFFER BELTS—Brochure and full information on Lickerin and Doffer belts. —TON-TEX CORPORATION, 16 West 61st St., New York 23, N. Y.

241. STANDARD OILITE BRONZE BEARING CATALOG — Lists more than 700 "Standard" Bearings, Cores, Bars and Plates carried in stock by hundreds of Oilite dealers and depots throughout the United States and Canada. — AMPLEX DIVISION, CHRYSLER CORPORATION, P. O. Box 2718, Detroit 31, Michigan.

252. HOW TO STOP "LUBRICHAOS" FROM CUTTING PROFITS — Well-illustrated, factual booklet gives advantages and working principles of Alemite's "Coloroute" plan of lubrication control. Has step-by-Step method of putting plan into operation. — THE ALEMITE DIVISION, STEWART-WARNER CORPORATION, Chicago 14, Illinois.

253. TEXTILE LUBRICATION — "Lubrication" a magazine published by the Texas Co. is available. Shows methods and means of lubricating c-ain drives in very comprehensive form. — THE TEXAS CO., 135 East 42nd St., New York 17, N. Y.

256. METERED LUBRICATION — Bulletin 6A has 12 illustrated pages showing how central lubricating systems are applied to combers, roving frames, winders, knitters, looms, etc. — BIJUR LUBRICATING CORP., Rochelle Park, N. J.

259. SUNOTEX MACHINE OIL — Booklet describing this machine oil as being "custom-made" for the textile industry. Advantages discussed and pictures of uses which includes knitting machinery.— SUN OIL COMPANY, Philadelphia 3, Pa.

262. SMALL PRECISION METAL PARTS — Catalog by Torrington Company describes many special precision metal parts made by its Specialties Division. —THE TORRINGTON COMPANY, Specialties Division, 500 Field Street, Torrington, Connecticut.

265. SERVICE PROCEDURE FOR BALL BEARINGS — A helpful manual for maintenance engineers giving helpful hints on disassembly, inspection, cleaning, lubrication, and replacement of ball bearings in any mechanism. — NEW DEPARTURE, Division of General Motors Corp., Bristol, Conn.

268. SILICONE LUBRICATION — Bulletin BG2-DC, describes properties of Silicone greases used in motors at high speeds and temperatures, on oven conveyors, tenter frames, can dryers, etc. Decrease by 10 to 1 in re-lubrication requirements described. —DOW-CORNING CORP., Midland, Mich.

280. NEW MOTOR CONTROL — 8-page promotional folder gives complete description of the new ARROW-HART Type "LM" Loom Switch, said to be the first manual, across-the-line starter designed specifically for textiles. — INDUSTRIAL CONTROL DIVISION, Arrow-Hart and Hegeman Electric Co., 103 Hawthorne Street, Hartford 6, Conn.

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303. PROCESS CONTROL EQUIPMENT — Catalog containing brief description of standard and special process control equipment engineered for textile industry. Includes schematic diagrams. — MASON-NEILAN REGULATOR CO., 1190 Adams St., Boston, Mass.

309. ELECTRONIC RECORDER — 8-Page bulletin covers the TEKTOLOG Electronic Recorder which features simplified design, accuracy to +- or — 1% of full scale, and self-starting operation from low energies. — FIELDEN INSTRUMENT DIVISION, Robertshaw Fulton Controls Co., 2920 North Fourth St., Philadelphia, Pa.

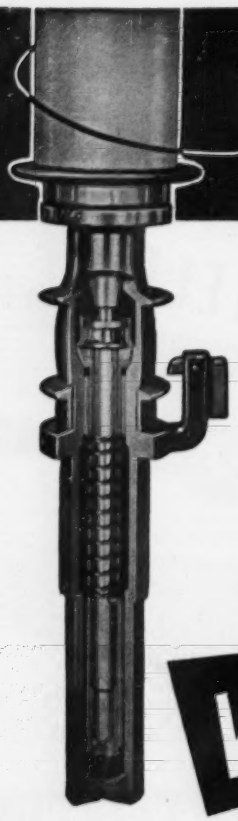
314. MOISTURE CONTENT CONTROL — Bulletin F-3156 giving details of features and benefits of moisture equipment control for slashers and textile applications. — BARBER-COLMAN CO., Rockford, Ill.

321. RED-RAY BURNERS — Bulletin describing use of Red-Ray Burners in preheating and partial drying to increase capacity of frame. — RED-RAY MFG. CO., 445 W. 45th St., New York, N. Y.

324. STROBOTAC — Informative reprint, "Strobotac Boosts Efficiency in Woolen and Synthetic Mills." — GENERAL RADIO CO., Cambridge 39, Mass.

337. COUNTING DEVICES — Catalog of Trumeter's complete line of counters for every application where counting, measuring or registering is required. Colored pictures illustrate each application. —TRUMETER COMPANY, 1265 Broadway, New York 1, N. Y.

339. NEW LUBRICATED PLUG VALVES — Illustrated booklet by The William Powell Co. features a new line of semi-steel and steel lubricated plug valves. Advantages include quick and positive shut off. — THE WILLIAM POWELL COMPANY, 2525 Spring Grove Ave., Cincinnati 22, Ohio.



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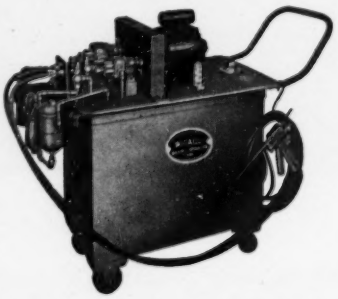

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401. LUMMUS DUSTLESS, STEEL BLENDING FEEDERS — Bulletin describing automatically closing, positively locking door on feeders to prevent overloading, choking.—ALDRICH MACHINE WORKS, Greenwood, S. C.

402. AUTOMATIC CLEANING AND OVERHEAD HANDLING FOR TEXTILE MILLS — 24-page bulletin describing the American Monorail Automatic Cleaner for preventing accumulation of lint on spinning, twisting, winding and warping machines. Also for cleaning monitors and card room ceilings. — THE AMERICAN MONORAIL CO., Cleveland, Ohio.

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408. CARD GRINDING INFORMATION — Outlines care of grinders, instructions on speed to run grinders, amount of oil to add to machine and other pertinent information. — B. S. ROY & SON CO., Worcester, Mass., and Charlotte, N. C.

412 SERVICE FOLDER — Folder covers textile metal products including spinning and twisting cylinders, card screens, etc. — JENKINS METAL SHOPS INC., Gastonia, N. C.

414. WORSTED SPINNING — Bulletin explaining and illustrating Saco-Lowell's new system for worsted spinning, from top to yarn in five economical and efficient stages. — SACO-LOWELL SHOPS, 60 Batterymarch St., Boston 10, Mass.

415. DOUBLER-TWISTER FOR LARGE PACKAGES — Bulletin describing two new machines producing straight or tapered top bobbins. Suitable for filament or spun yarns up to three pound capacity. Individual thread stop motion fully discussed. — FLETCHER WORKS, INC., Philadelphia, Pa.

416. THE BRIEF SAGA OF THE RING TRAVELER — An interesting history relative to the ring traveler, which is in reality the basis of the spinning frame. John Thorpe's invention of ring traveler, the development of the spindle, and the invention of Rabeth's Bolster type spindle are covered. — NATIONAL RING TRAVELER CO., Pawtucket, R. I.

418. PACIFIC CONVERTER — Graphic description of machine that cuts any synthetic tow; and when desired, blends it with wool or staple sliver, keeping the fibers parallel, and issuing an even sliver of accurate blend. — WARNER & SWASEY CO., Cleveland, Ohio.

419. TEXTILE APRONS—Illustrated folder showing the steps in manufacture of genuine leather aprons for all types of long draft spinning and card room machinery. — TEXTILE APRON COMPANY, East Point, Ga.

420. AUTOMATIC FILLING WINDING — Eight page, two color booklet describing the operation and mechanism of the Hacoba winder. — ATKINSON, HASERICK & CO., 211 Congress St., Boston, Mass.

421. CARD ROLL COVERS — Brochure describing the Davis seamless roll covers. Lists advantages, specifications and offers free trial. — THE TEXTILE LABORATORIES, P. O. Box 1003, Gastonia, N. C.

425. HANDY REFERENCE TABLES — Folder showing spinning traveler speeds, sizes of ring flanges, etc. — VICTOR RING TRAVELER CO., Providence, R. I., and Gastonia, N. C.

426. UNIRAIL UPTWISTER — Bulletin describes Universal Winding's headless package or bobbin take-up Unirail Uptwister which gives you higher yarn quality and better packages at faster speeds and lower costs, according to the bulletin. Well illustrated with advantages discussed. — UNIVERSAL WINDING COMPANY, P. O. Box 1605, Providence, R. I.

430. DIXON DATA — Dixon house organ entitled "Dixon Data," which is available in a new form every other month. These house organs contain information on spinning problems as they relate to saddles and component parts. — DIXON LUBRICATING SADDLE CO., Bristol, R. I.

432. PRECISION TEXTILE WINDING — Bulletin on Kidde Tensions and Density Control for winding rubber cones. — WALTER KIDDE & CO., INC., Belleville, N. J.

435. DOUBLE DECK TWISTERS — Bulletin describes Jumbo (8 oz. to 16 oz. headless or take-up spool packages) and Acme (up to 10 oz. packages) models for high sped twisting of silk, rayon, nylon, etc., to finest deniers. — U. S. TEXTILE MACHINE CO., Scranton 8, Pa.

436. MAINTENANCE INFORMATION FOR YOUR SCOTT TESTER — Booklet containing maintenance data for calibration of Scott Testers, clamps for testers, gear-box lubrication, and recording. — SCOTT TESTERS, INC., Providence, R. I.

438. HEADLESS PACKAGE TWISTER ELIMINATES REDRAWING — Literature shows high-speed Face Drive Twister for accurately building tapered or straight-end headless packages which go direct to quilling or warping without redrawing. — U. S. TEXTILE MACHINE CO., Scranton 8, Pa.

445. ROLLER BEARING SPINDLES — Illustrated booklet showing various types of Marquette Roller Bearing Spindles. The unique full-floating footstep bearing is pictured in cut-away views, and its advantages are described. — THE MARQUETTE METAL PRODUCTS CO., 1145 Galewood Ave., Cleveland, Ohio.

447. CONE WINDER — Form A95 describes the Foster Model 102 winder which produces the Foster knitting cone for spun yarns, warping cones and tubes for dyeing and twister supply. — FOSTER MACHINE COMPANY, Westfield, Mass.

453. EVENNESS TESTER — Folder explaining how this Tester takes the guess out of quality control and each processing step from carding through spinning.—USTER CORPORATION, Charlotte, N. C.

455. PIN DRAFTS — Catalog describing the use and features of the machine, what it can do to cut costs in the processing of natural and synthetic yarns, along with specifications and installation data. — WARNER & SWASEY CO., 5701 Carnegie Ave., Cleveland, Ohio.

458. CONICAL RINGS AND FLYERS — Special data available on the Herr conical rings and flyers.— HERR MANUFACTURING CO., INC., 314 Franklin St., Buffalo 2, N. Y.

459. TENSION CONTROLS — Folder describing tension compensation and automatic tension controls. Three models—Standard, Warp, and Double Disc fully described with specific application. — WALTER KIDDE & CO., INC., Belleville 9, N. Y.

461. PRECISE WIND MACHINE — Form A-92 describes the Foster Model 75 widely used for winding straight or pineapple cones and tubes of rayon, nylon and other filament yarns. — FOSTER MACHINE COMPANY, Westfield, Mass.

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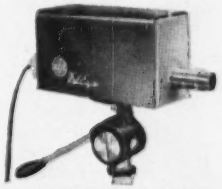

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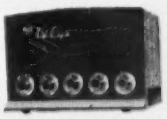

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462. TEXTILE MACHINERY PARTS CATALOG—A 24-page illustrated catalog describing the complete line of Dayco and Thorobred textile machinery parts including Cots, Aprons, Loop Pickers, Lug Straps, etc. — DAYTON RUBBER CO., Dayton, Ohio.

467. CARD CLOTHING — 8-page booklet by Benjamin Booth Company describes Strip-O-Matic Card Clothing and its advantages. — BENJAMIN BOOTH COMPANY, Allegheny Avenue & Janney Streets, Philadelphia, Pennsylvania.

469. SHORT CUT TO STAPLE FIBER SPINNING — Color brochure shows the ten steps in operation of the Turbo Tow Stapler, gives technical details and diagrams. — TURBO Machine Company, Lansdale, Pa.

471. FACTS ABOUT YOUR FLYERS AND SPINDLES — Booklet by Ideal Machine Shops shows how smooth Flyer and Spindle operation can help produce higher and more efficient output, good quality yarn, minimum wear, and larger bobbins.—IDEAL MACHINE SHOPS, Bessemer City, North Carolina.

474. BALL BEARING COMB BOXES—Southern States Equipment Corp. offers literature on their famous C-1 Ball Bearing Comb Boxes. Description, working principle, cut-a-way views shown.—SOUTHERN STATES EQUIPMENT CORP., Hampton, Georgia.

475. TEXTILE ROLL COVERINGS AND MILL SUPPLIES — Color Booklet by Armstrong shows and describes their complete line of textile roll coverings, including also loom supplies, mill supplies, Roll covering for Cotton, Silk and Synthetic and Woolen and for Cotton, Silk and Synthetic and Woolen and Worsted systems. An excellent guide book.—ARMSTRONG CORK CO., Industrial Div., Lancaster, Pa.

476. TEXTILE FIBER OPENER FOR COTTON SYNTHETICS, WOOL — New brochure by Cen-Tennial Cotton Gin Co. gives complete data on the Cen-Tennial Opener which incorporates improvements on the original SRRL Opener. Complete operating procedure is described. — CEN-TENNIAL COTTON GIN CO., Columbus, Ga.

476. TIPS ON CARDING PROCEDURE—Monthly bulletin by Ashworth Brothers includes many useful tips and advice on carding operation, maintenance and care and is available to anyone interested. Bulletin is a reprint of section appearing on green paper in this issue. — ASHWORTH BROTHERS, Fall River, Mass.

477. METALLIC CARD CLOTHING — Color booklet by Platt Brothers describes their Patent Metallic Card Clothing. Well-Illustrated it gives applications, types of clothing for all fibers, etc. — TEXTILE INDUSTRIES, 806 Peachtree Street, Atlanta, Georgia.

WEAVING, SLASHING . . .

501. LOOMS — An accordion type folder is available entitled "Unfolding to You the World's Largest Line of Looms." Information on all types fully discussed. — CROMPTON & KNOWLES LOOM WORKS, Worcester 1, Mass.

502. COUNTING AND MEASURING DEVICES—Condensed textile catalog illustrating and describing pick counters, hank counters, cut meters, measuring counters. Wide range of counting devices for production recording on all types of textile machinery. —VEEDER-ROOT, INC., Hartford, Conn.

503. WEAVER'S KNOTTER — A catalog on the Boyce Weaver's Knotter giving a few instructions as to its use, recommendation as to the proper type knotter for the various types of yarns, and the spare parts that go to make up the knotter. — A. B. CARTER, INC., Gastonia, N. C.

504. LOOM SUPPLIES — Literature describing complete line of straps, strapping, pickers, dobby cords, sticks, binders, bumpers, brake lining and allied products. — E. H. JACOBS NORTHERN DIV., THE BULLARD CLARK CO., Danielson, Conn.

506. SLASHING HINTS — A 20-page booklet offering helpful hints on warp sizing. Subjects: Size cooking equipment, section beam tension, sizing selvages, cooking, use of split rods, weighing for the mix, tips on cooking equipment, storage in kettles, etc. — SEYDEL-WOOLEY & CO., 748 Rice St., N.W., Atlanta, Ga.

507. VARIABLE SPEED SLASHER DRIVE — Reeves bulletin G-503 describes their Servo-Control slasher drive which automatically controls tension from creel to beam, and which controls the stretch in the slasher. — REEVES PULLEY CO., Columbus, Ind.

508. LOOM PRODUCTION CHARTS — Convenient celluloid card showing yards per loom per week of 40 hours at various loom speeds. — RALPH E. LOPER CO., Greenville, S. C.

509. MULTI-MOTOR SLASHER DRIVES—Booklet designed to bring the descriptive information on multo-motor slasher drives up to date, and emphasize the improvement in the drive through the use of Roto-trol for the control of winding tension. — WESTINGHOUSE ELECTRIC CORP., 511 Wood St., Pittsburgh 30, Pa.

511. ALUMINUM BEAMS — Catalog No. 1-21 describes Hayes magnesium and aluminum specialties for the textile industry. Illustrates this company's beams that are one-third the weight of convenional types. — HAYES INDUSTRIES, INC., Jackson, Mich.

517. LOADING SYSTEM — Bulletin 417, on pneumatic loading system for Saco-Lowell slasher size box squeeze rolls, contains installation photo, features, specifications, and prices. — THE FOXBORO COMPANY, Foxboro, Mass.

521. STEEL WARP BEAMS — 20 page Catalog No. 45 illustrating Standard and Special Purpose Warp Beams for the weaving industry, both broad-loom and narrow fabrics. Also Textile Machinery Specialties. — MILTON MACHINE WORKS, INC., Milton, Pa.

524. JOHNSON WARP SIZES — 12 page fully illustrated booklet, describing the 7 cylinder sizer with stretch indicator and finger-tip control of stretch. A point-by-point analysis. — CHARLES B. JOHNSON MACHINE WORKS, Piercy & Holsman Sts., Paterson, N. J.

530. ROTARY UNIONS — New catalog shows how to cut costs, get better sealing on can dryers, slashers, calenders, etc. Catalog No. 500 entitled "Where Good Connections Count." — PERFECTING SERVICE COMPANY, Atando Ave., Charlotte, N. C.

536. HOMOGENIZER IMPROVES SLASHING — Pamphlet by Manton-Gaulin Manufacturing Company shows how mechanical conversion of size by the Gaulin method produces better size. Gives installation pictures and specifications. — MANTON-GAULIN MANUFACTURING COMPANY, INC., Everett, Massachusetts.

537. WEST POINT'S HOT AIR SLASHER — Bulletin describes advantages and capacities of new hot air slasher by West Point Foundry and Machine Works. Detailed specification included. — WEST POINT FOUNDRY AND MACHINE WORKS, West Point, Georgia.

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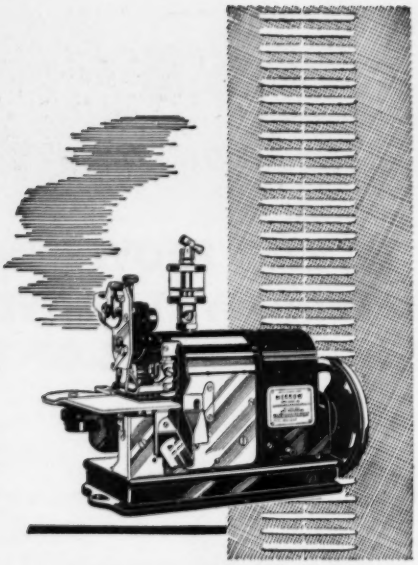

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538. AIR SLASHER DRYER — Pamphlet by Proctor & Schwartz shows construction and operating details of the Proctor Air Slasher Dryer. Advantages listed and cut-away view shown. — PROCTOR & SCHWARTZ, INC., 7th St. and Tabor Rd., Philadelphia 20, Pa.

539. AUTOMATIC REGAIN CONTROL OF RAYON AND SYNTHETIC FIBRE SLASHING — Technical booklet by Minneapolis-Honeywell gives data on their electronic, multi-range "Moist-O-Graph" system for controlled regain. Write for No. B54-66, MINNEAPOLIS-HONEYWELL REGULATOR CO., Station 64, Phila. 44, Pa.

540. SLASHING EQUIPMENT — Brochure by Tower Iron Works shows different types of slashing equipment, enumerating characteristics and advantages of each. — TOWER IRON WORKS, 50 Borden St., Providence 3, R. I.

545. NOPCO CHEMICAL DATA SHEETS — Now available are Nopcostats, Nopco Sizes N and D. Important points in Warp Sizing, Interpretation of Analysis, Wetting Agents, Balanced wool and worsted oils, Acetate Warp Sizing, Viscose warp sizing, Rayon soaking. — NOPCO CHEMICAL CO., Harrison, New Jersey.

DYEING, FINISHING CLOTH ROOM . . .

602. CONTROLLED VAT DYEING — Colco technical booklet No. 828 discusses Stabilization of Vat Dyes at Elevated Temperatures, Instrumental and Analytical Measurements, Leuco Potentials. — AMERICAN CYANAMID CO., CALCO CHEMICAL DIVISION, Bound Brook, New Jersey.

608. HYDRAULIC POWER UNITS — Literature describing hydraulic unit, motor, pump, reservoir, valving a small compact unit for operating of hydraulic calenders, presses, hydraulic controls, etc. — B. F. PERKINS & SON, INC., Holyoke, Mass.

610. PROCTOR DRYING MACHINERY FOR THE TEXTILE INDUSTRY — Illustrated, descriptive catalog on all types of dryers for raw stock, warps, package dyed and automatic skein yarn. Also includes Pre-Boarding and Automatic Boarding Machines for hosiery. — PROCTOR & SCHWARTZ, INC., 7th and Tabor Rd., Philadelphia, Pa.

615. HIGH PRODUCTION EXTRACTOR FOR RAW STOCK — YARN — HOSIERY — Descriptive bulletin and full information on automatic Twintainer Extractor with bottom-unloading removable baskets. Machine replaces three conventional extractors, lowers labor costs. — FLETCHER WORKS, INC., Philadelphia, Pa.

616. FINISHING DRIVES — 32-page booklet covers complete drives Westinghouse has engineered for the textile finishing industry. Describes all types of finishing ranges and discusses advantages of Westinghouse drives for these installations. "Packaged" drives for batch processes covered. — WESTINGHOUSE ELECTRIC CORP., 511 Wood St., Pittsburgh 30, Pa.

617. AUTOMATIC CONTROL SYSTEM FOR CONTINUOUS BLEACHING — Illustrated folder describes the new method of controlling the temperature, ptessure, and liquid level in the continuous bleach operation. — TAYLOR INSTRUMENT COMPANIES, Rochester 1, N. Y.

620. REGENERATION OF ZEOLITE WATER SOFTENERS — Booklets explains advantages of international's Lixate Process in regeneraiton of zeolite water softeners. Shows how it cuts costs and does a better job. — INTERNATIONAL SALT COMPANY, INC., Scranton, Pennsylvania.

623. SELVAGE GUIDER — The Marshall and Williams positive overfeed and selvage guider is described in a brochure as being developed to meet the most modern requirements of the textile finishing industry. Full description, pictures and advantages discussed. — MARSHALL AND WILLIAMS CORPORATION, 46 Baker Street, Providence 5, R. I.

627. SINGLE APRON STOCK DRYERS — Folder presenting the latest idea in automatic drying which every mill having drying problems can profitably use to meet modern manufacturing conditions. C. G. SARGENT'S SONS CORP., Graniteville, Mass.

631. ELIMINATE DYE-BATH SHOCK — Data sheet by Foxboro shows how woven fabrics and hosiery may be protected from Crow's-feet, uneven shade, creasing caused by too rapid cooling of goods. — Write for data sheet, 220-60, FOXBORO COMPANY, 487 Neponset Ave., Foxboro, Mass.

632. LUG STRAP WASHERS — Series 1-C illustrated bulletin detailing right and wrong application and use of washers. — E. H. JACOBS NORTHERN DIV., Danielson, Conn.

637. BALL BEARING TURN TABLE — Leaflet describing this 48" diameter steel turn table for use in mills where the cloth is delivered in rope form to trucks and the trucks are placed in position ahead of a Scutcher or cloth operating machine. Advantages discussed. — BIRCH BROTHERS, INC., 32 Kent St., Somerville, Mass.

638. DYEING AND FINISHING MACHINES — Booklet by James Hunter Machine Company shows pictures, applications, and advantages of following: "Vapo Jet" Dryer; "Hunter Dye Beck"; "Flexreel" Rope Washer; Continuous Cloth Washer; Model "S" Dye Kettles; Compartment Washer; Fulling Mill; Top Dyeing Machine; "Uniflow" High-speed Tenter Dryer; Cloth Carbonizer. — JAMES HUNTER MACHINE CO., North Adams, Mass.

639. ROTARY DYEING MACHINE — Booklet No. 425 illustrating the features of these stainless steel machines used for dyeing hosiery, hats, gloves, socks, etc. — SMITH, DRUM & CO., Allegheny Ave. at 5th St., Philadelphia 33, Pa.

653. GUIDERS AND TENSION DEVICES — Illustrated and described are the Mount Hope Precision Guiders and open width Tension Devices used for accurate, straight line guiding of open width goods. Bulletin SG-PG. — MOUNT HOPE MACHINERY CO., 15 Fifth St., Taunton, Mass.

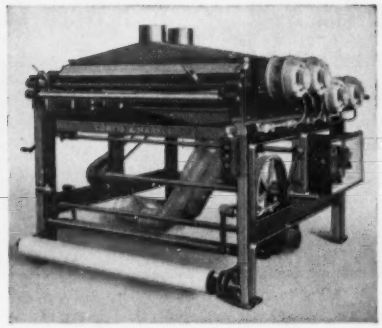
654. ION EXCHANGERS — Bulletin details a general history of ion exchange, gives data on proper selection of ion exchangers and lists general applications in the treatment of water. — PERMUTIT COMPANY, 330 West 42nd Street, New York 36, New York.

655. PAPER TUBES FOR YARN AND CLOTH —Complete data to help you solve your paper tube problems. Overnight delivery of yarn and cloth paper tubes and boards. Shows how warehousing of these items can be avoided. — TEXTILE PAPER PRODUCTS, Cedartown, Ga.

658. BEAM MULTIPLE DYEING — Information on the Morton System Horizontal Beam Dyeing machine is available. Features include minimum handling of beams and the use of a common or individual dyebath for as many as six beams. — MORTON MACHINE WORKS, 1718 Third Avenue, Columbus, Georgia.

DYESTUFFS, CHEMICALS, SOAPS . . .

700. COTTON FINISHING OILS — New booklet by Twitchell devoted to finishing Sanforized Fabrics contains such specific data as re-wetting speed, imparted softness, resistance to yellowing, and "balance" of these properties. — EMERY INDUSTRIES, INC., Dept. 5, Carew Tower, Cincinnati 2, Ohio.



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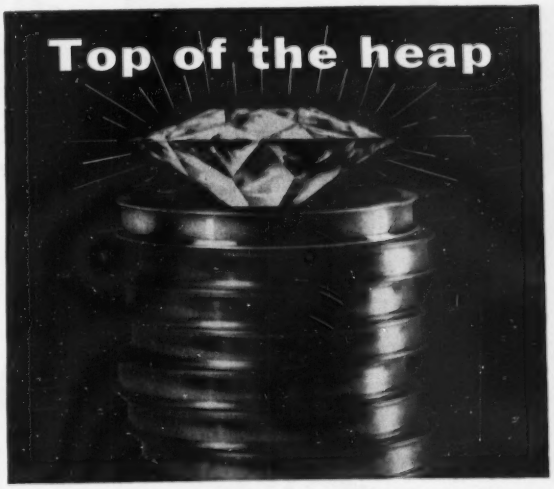

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706. RHONITE RESINS — Booklet describes the Rhonite Resins as being developed to impart hand to fabrics ranging from stiffness through full resiliency to silky suppleness, depending on the demand of the season. Full information and uses given. — ROHM & HAAS COMPANY, Washington Square, Philadelphia, Pa.

710. DEPUMA — An odorless, viscous, non-evaporating emulsion which is highly efficient as an antifoam, useful in all phases of dyeing and printing.— AMERICAN ANILINE PRODUCTS, INC., 50 Union Square, New York, N. Y.

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714. NEW SODA ASH BULLETIN — 64-page edition contains both new material and revisions of previously used data covering the subject. Ask for Bulletin No. 5. — SOLVAY SALES DIV., 40 Rector St., New York 6, N. Y.

715. AQUAROL AND ARKANSAS PRODUCTS— Bulletin on Aquarol water repellent finish with method of preparing bath; also on other Arkansas products for cotton, wool, silk and yarn, hosiery processing. — ARKANSAS CO., INC., Newark, N. J.

721. SURFAX 1288 — Product data sheet explains this useful wetting and rewetting agent. Described as being water soluble at all temperatures and is a highly concentrated, economical surface active agent. — E. F. HOUGHTON & CO., 303 W. Lehigh Ave., Philadelphia, Pa.

727. COLOR PRINCIPLES — Booklet available from Sandoz Chemical describes the fundamental principles of color and its measurement. Booklet has been adopted by several of the leading textile schools. — SANDOZ CHEMICAL WORKS, INC., 61 Van Dam Street, New York 13, N. Y.

728. UNIQUE YARN AND DYEING SERVICE— Booklet by Franklin Process tells why Franklin Process Yarn Dyeing Service is one of the top package yarn dyeing services. Also includes table showing relative fastness of dyestuffs used on various fibers. — FRANKLIN PROCESS CO., 564 Eddy St., Providence, R. I.

729. STATIC AND STATIC CONTROL — Papers deal with historical background of static electricity and the problems caused by it along with methods of controlling them. — DEXTER CHEMICAL CORP., 819 Edgewater Road, New York 59, N. Y.

733. WOOL OILS — Twin booklets by Proctor and Gamble tell of the influence of wool oils in producing quality yarns and fabrics, and of Proctor and Gamble's Proxol T, an outstanding wool oil. — PROCTOR AND GAMBLE DIST. CO., Cincinnati, Ohio.

734. BLEACHING WITH PEROXYGEN CHEMICALS — Bleaching methods for cotton, rayon, nylon and animal fibers are comprehensively treated in Becco Research and Development Dept., Bulletin No. 52, now available. — BUFFALO ELECTRO-CHEMICAL CO., INC., Station B, Buffalo 7, New York.

745. RAPIDASE FOR DESIZING — Bulletin explaining in detail the properties and characteristics of Rapidase. — WALLERSTEIN CO., INC., 180 Madison Avenue, New York 16, N. Y.

749. WATER SOLUBLE GUMS—Booklet giving the origin, gathering, marketing and uses of water soluble gums. This booklet No. 23 is beautifully illustrated, and is one of the few treatises on the subject. — JACQUES WOLF & CO., Passaic, N. J.

753. TRITON X-100 — **Booklet** available describing this highly concentrated detergent and wetting agent. Main uses fully discussed and chemical properties brought out. — ROHM & HAAS COMPANY, Philadelphia 5, Pa.

757. THE CHEMISTRY OF CYNANURIC CHLORIDE — Very comprehensive technical text by American Cyanamid Co. Gives Physical Properties, Reaction Chart, Chemical Properties, Potential Applications, Toxicity, Table of Alcohol Reactions, Table of Amine and Related Compound Reactions. — AMERICAN CYANAMID CO., 30 Rockefeller Plaza, New York 20, New York.

763. TEXTILE CHEMICALS — Booklet, well executed and in color, tells of American Viscose Company's "Avisco" textile chemicals for lubricating, softening, static control, sizing and finishing. — AMERICAN VISCOSE CORPORATION, Textile Research Department, Marcus Hook, Pa.

766. DU PONT PEROXIDE BLEACHING SYSTEMS — New book illustrating and describing this continuous peroxide bleach system. Layouts and other information included. — E. I. DU PONT DE NEMOURS & CO., ELECTROCHEMICAL DEPT., Wilmington, Del.

768. TEXTILE CHEMICALS — Buying guide and reference book giving facts about Amalgamated Products, the fabrics on which they give best results, their proper application, and their chemical composition. — AMALGAMATED CHEMICAL CORP., Philadelphia 34, Pa.

769. SURFACE TENSION DEPRESSANT — The booklet, "Mercerizing and Alkamerce — The Ideal Dry" which can be used as a wetting agent; a dye leveling agent, a penetrant in package dyeing. — HART PRODUCTS CORP., 1440 Broadway, New York, N. Y.

773. TECHNICAL CHEMICAL DATA SHEETS— Complete set for dyeing, printing and finishing operations, showing major operations, performance and advantages. — ONYX OIL & CHEMICAL CO., 190 WARREN ST., Jersey City 2, N. J.

774. ROYCE TEXTILE CHEMICALS — This booklet briefly describes the leading Royce products for textile processing, printing, dyeing and finishing. — ROYCE CHEMICAL COMPANY, Carlton Hill, N. J.

801. THE WILDMAN SINGLEHEAD FULL-FASHIONED HOSIERY MACHINE — Literature on request from the WILDMAN MFG. CO., Full-Fashioned Division, Norristown, Pa.

KNITTING . . .

808. REINER WARPER — Full width and sectional warpers for all requirements in the knitting and weaving industry fully described in recent catalog. —ROBERT REINER, INC., Weehawken, N. J.

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818. MILTON LIGHT METAL BEAMS FOR EVERY APPLICATION — Catalog 45-A describing Light Metal Tricot Beams made in Standard and Special sizes plus Special Purpose Light Metal Textile Equipment. — MILTON MACHINE WORKS, INC., Milton, Pa.

823. VARIABLE STRIPER — Booklet available describing Supreme's complete line of automatic Variable Stripers and Pattern Placer machines. — SUPREME KNITTING MACHINE CO., INC., 105 Johnson Ave., Brooklyn 6, N. Y.

828. THE KIDDE KNITTER — Bulletin describing the newest in Raschel-type warp knitting machine and higher production attained with it. — KIDDE MANUFACTURING CO., INC., Farrand St., Bloomfield, N. J.

SEWING MACHINES . . .

924. BUTT-TACKING SEWING MACHINE — Booklet describes an operating installation of the Merrow single thread butt-tacking sewing machine. Gives performance data, and advantages of butt-tacking. — THE MERROW MACHINE COMPANY, 28 Laurel Street, Hartford, Connecticut.

925. SEWING MACHINES — The Lock-Stitch bulletin No. 258 describes and illustrates new, high speed, single needle Union Special Lock-Stitch machine for general purpose industrial sewing operations. — UNION SPECIAL MACHINE CO., 407 N. Franklin St., Chicago 10, Illinois.

MATERIALS HANDLING . . .

1003. CASTERS AND WHEELS — 192 pages, describing casters and wheels suitable for all types of industrial applications. Every mechanical engineer and purchasing agent should have this. — DARNELL CORP., LTD., Long Beach 4, Calif.

1004. PITTSBURGH COLLAPSIBLE CARGOTAINERS — Stacked they lock in place and permit visible inventory; collapsed they rest in small area. Base permits entry by all types of lift trucks. Write for brochure MH-15. — PITTSBURGH STEEL PRODUCTS COMPANY, Pittsburgh 30, Pa.

1006. LANE CANVAS BASKETS — 16 page illustrated booklet describing the Lane line of canvas baskets for textile use. — W. T. LANE & BROTHERS, Poughkeepsie, N. Y.

1007. OVERHEAD HANDLING EQUIPMENT — 56 pages of illustrations showing successful applications of monorail systems to meet every kind of handling problem. — THE AMERICAN MONORAIL CO., 13106 Athens Ave., Cleveland 7, Ohio.

1008. CASTERS AND WHEELS — An illustrated booklet with complete specifications showing a complete assortment of Cotton Textile Casters. — THE COLSON CORP., Elyria, Ohio.

1010. CONVEYOR KEY BOOK — A guide to production "step-ups" now possible with modern conveying. Shows time-and-effort savings. Well illustrated with photos showing plant layouts and sketches showing where, how and why different types of conveyors are used for maximum results. — LOGAN CO., 1115 Franklin St., Louisville, Ky.

1011. TEXTILE TRUCKS — Booklet describing doff boxes, frames and trucks, yarn, waste, platforms, conditioning, creep lap, fiber, utility trucks, etc. Uses and description. — EXCEL TEXTILE SUPPLY CO., Lincolnton, N. C.

1013. "A STORY OF TRACTOR TOOLS AND THEIR USE" — Comprehensive illustrated guide effectively present in cartoon-style the many principal uses for this type of equipment. — HYSTER CO., 2903 N.E., Clackamas St., Portland 8, Ore.

1030. CDF RECEPTACLES — This 32-page catalog, R-11, profusely illustrated in color, shows Continental-Diamond's line of boxes, trucks, cans, barrels, baskets and trays. Complete description and specifications are given on each item. — CONTINENTAL-DIAMOND FIBRE CO., Newark 11, Del.

1032. ELECTRIC CHAIN HOISTS — Bulletin 852 describing Robbins & Myers Type "JC" Electric Chain Hoists. Capacities 500, 1000 and 2000 pounds. — ROBBINS & MYERS, INC., Hoist & Crane Div., Springfield, Ohio.

MISCELLANEOUS . . .

1102. BALING PRESSES — An illustrated folder describing this manufacturer's complete line of balers for all materials. Both Downstroke and Upstroke models. — ECONOMY BALER CO., Ann Arbor, Mich.

1103. UNBRAKO SCREWS — Illustrated 16-page booklet No. 570 gives data on Unbrako hollow set screws, with knurled point, self-locking features. Includes miscellaneous screw and locking nut data. — STANDARD PRESSED STEEL CO., Jenkintown, Pa.

1108. FABRICATION OF U. S. STAINLESS STEELS — 136-page book covering use of stainless steel in textile equipment from cutting to cleaning. Includes corrosive-resistance tables for chemicals. — CARNEGIE-ILLINOIS STEEL CORPORATION, Pittsburgh, Penn.

1111. BRUSHES — A 26-page booklet is now available which describes and illustrates this manufacturer's line of brushes for the textile industry.— GASTONIA BRUSH COMPANY, Gastonia, N. C.

1112. THE RANDOM WEB PROCESS — Bulletin No. 101 describes the Rando-Webber and Rando-Feeder machines, and discusses the origin and development of the Random Web process which produces a non-oriented web suitable for processing into felts, wadding, heavy mats and non-woven fabrics on a continuous basis. Engineering data and cut-away diagrams. — CURLATOR CORPORATION, Textile Division, 565 Blossom Rd., Rochester, N. Y.

1113. MACHINE KNIVES — Catalog and price sheets describing this company's line of knives for use on textile machinery. — TAYLOR-STILES & CO., 21 Bridge St., Riegelsville, N. J.

1115. TEXTILE WRAPPING MACHINES — Brochure describing automatic wrapping machines for various types of textile products, including the new Hayssen V-Type Underfold, most protective package made. — HAYSSEN MANUFACTURING CO., Sheboygan, Wisconsin.

1122. BALING PRESSES — Bulletins available describing this company's line of motor-driven and hydraulic baling presses for finished goods, textile fibers, wool, and waste of all kinds. — LOGEMANN BROTHERS CO., 3150 West Burleigh St., Milwaukee, Wis.

What the TEXTILE MILLS are doing

American Texoprint Machine Corp., recently organized to operate a textile printing works, is represented by Joseph G. Goward, 15 William St., New York City.

Avonshire-Pratt, Ltd., Inc., Philadelphia, Pa., a new operation of **Avonshire Knitting Mills**, will manufacture, buy, sell, job, design, and deal in knit goods, woolens, worsted, cotton goods, and other yarns.

Bell Co., Worcester, Mass., woolen and worsted goods, plans construction of a one-story plant at Lincolnton, N. C., for general production, in addition to several buildings for miscellaneous service. Cost is reported close to $1,000,000. The plant at Worcester will continue in service, according to a recent announcement.

Berkshire Woolen Co. has under construction an addition to its Pittsfield, Mass., plant, to house finishing, inspecting, and shipping operations.

Bigelow-Sanford Carpet Co. is expanding its production division at the Summerville, Ga., carpet mill. It has also organized a new division under the name **Bigelow Fiber Glass Products**, to specialize in the production of a woven fiber glass roving material designed for high-strength reinforcing.

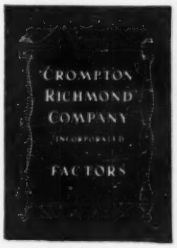
Sunbury Textile Mills, Inc., has taken over the local mill of former Susquehanna Mills, Inc. The new organization is headed by John F. Matheson, president of Mooresville (N. C.) Mills, Inc. Gordon G. Matheson, vice-president of Mooresville, will be president and treasurer. Kenneth B. Cook, former president of Susquehanna Mills, is vice-president; and W. A. Kerstetter, plant manager for Susquehanna, secretary and general manager.

Brown Knitting Co., Warsaw, N. Y., has been sold by Campe Corp. The purchasers are headed by Irving Flamberg, head of Ainsbrooke Co. and Carmi-Ainsbrooke Corp., of Illinois, and A. Haithwaite of Brown Knitting Co., the latter being president of the new corporation.

Brownie Knitting Mills, Inc., recently incorporated to manufacture outerwear, is represented by Henry M. Cohn, 51 Chambers St., New York.

Carolina Sports Knitting Co., Florence, S. C., recently organized by R. P. Schofield, Jr., Florence, S. C., and associates, is operating a mill for manufacture of sport knitwear for women and children.

William Carter Co. has under construction a one-story addition to its



The Human Factor

Crompton Is Welcome In The South

We are important factors in the South:

We have produced, sold, and factored in the South for generations.

We have progressed and expanded with the South because so many of our interests are bound up in the South.

Our factoring service is as close to the South as the telephone on your desk.

Our resources are more than ample for the needs of our present Southern factoring activities.

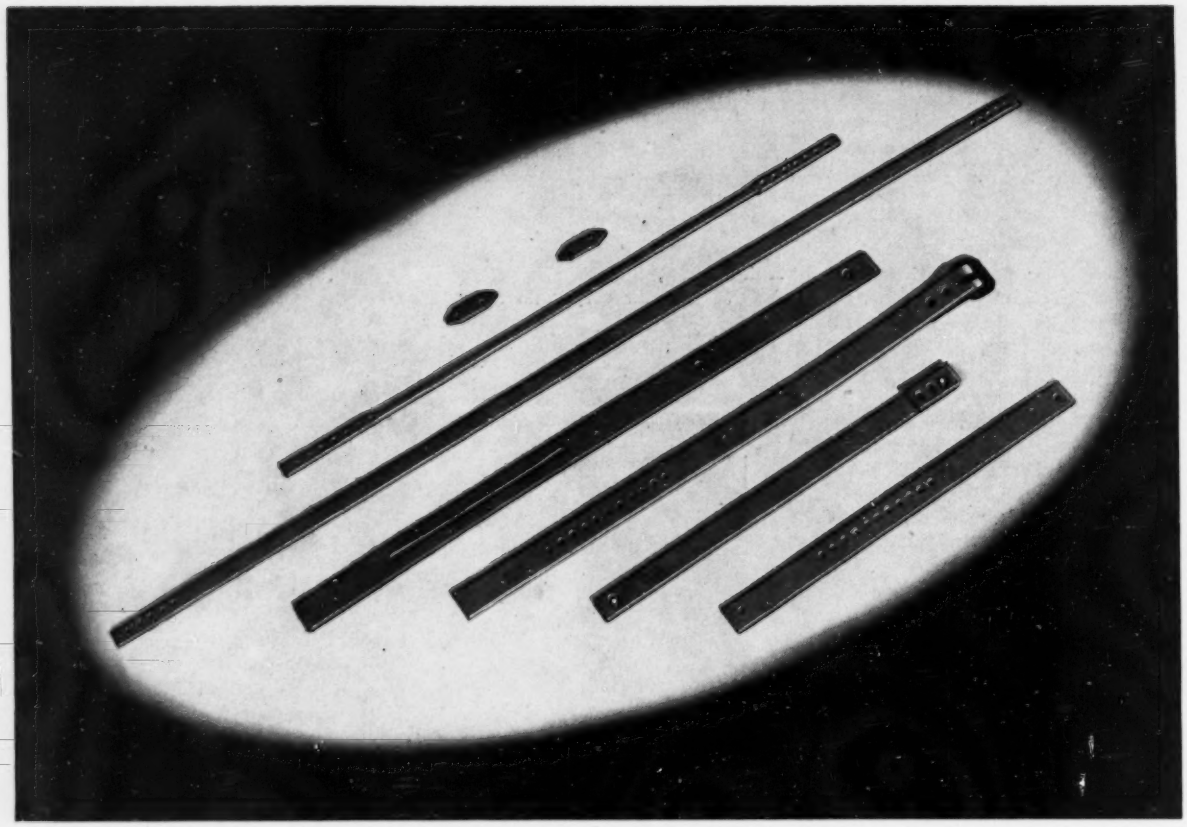
Our files and our credit information have no superior on a wide area basis . . . thus enabling us to do a better credit job for you than you can probably do for yourself. And our total business experience is yours for the asking.

Moreover, Crompton Factoring takes over your receivables and provides the cash. We keep you continually liquid at a lower cost. We assume credit risks, and lighten your overhead burden by also assuming the collection chores.

Representative: VON D. OEHMIG, Green Island Hills, Columbus, Ga.

CROMPTON-RICHMOND CO., INC.

1071 Avenue of the Americas, New York 18, N. Y.



How much do You Spend on HARNESS and JACK STRAPS?

It sometimes pays to investigate the costs of those items which become routine purchases. You may find that some comparatively low cost items, such as harness and jack straps are actually skyrocketing maintenance costs. If you find this happening in your mill we suggest you call in a Rhoads Representative. He has Harness and Jack Straps custom-tailored to your specifications.

They're cut from Tannate Special Leather. They're especially flexible. They will work easily over the small harness pulleys. This reduces internal friction that dries out the leather, and gives Rhoads Harness and Jack Straps longer service life. And, because Tannate Harness and Jack Straps are pre-stretched during their manufacture, they retain their correct length and require a minimum of adjustment in service. In addition, Tannate Special Leather has a high tensile strength enabling Rhoads Harness and Jack Straps to withstand the constant tearing, jerking motion that quickly wears out ordinary harness and jack straps.

When you're ready to replace or install harness and jack straps, let us prove the long life and efficiency of Rhoads. There's no obligation.

what is Tannate® Special Leather?

Tannate special leather is a Rhoads exclusive. It's custom tanned to build into it all the characteristics so necessary for efficient loom operation. For specifications, write J. E. Rhoads and Sons, 35 North Sixth Street, Philadelphia 6, Pa.

RHOADS

INDUSTRIAL LEATHERS

ATLANTA • PHILADELPHIA • NEW YORK • CHICAGO

Barnesville, Ga., mill, which will be used for expansion in the main knitting division. Some space will be given over to bleaching operations.

Coating & Laminating, Inc., recently chartered to operate a plant for processing and coating textile fabrics, is represented by Elizabeth Zucker, 45-55 48th St., Long Island City, N. Y.

Dalton (Ga.) Carpet Mills and **Dalton Rug Mills** have been purchased by **Bell Textile Co.,** 353 Broadway, New York, N. Y. The new owner plans an expansion program, including installation of 12 new machines for seamless cotton carpeting. A one-story addition is being constructed for installation of new dyeing and roller coating equipment.

Excelsior Mills No. 2 of **Deering, Milliken & Co.,** Clemson, S. C., is building a one-story warehouse addition.

Engineered Webbing Corp., 25 Esten Ave., Providence, R. I., has changed its name to **Engineered Tapes, Inc.**

Faith Mills, Inc., Averill Park, New York, and **Wright's Underwear Corp.,** New York City, have combined their manufacturing, merchandising, and distributing facilities. Wright's has been a selling agent for many years. Faith has given up its New York sales offices and members of its sales staff have joined the staff of Wright's.

Fieldcrest Mills, Inc., has announced that its bleachery and finishing mill is now available for commission finishing of domestic textiles and wide and narrow goods. The company's Karastan Mill has purchased two additional rug looms and a new continuous scouring unit. Building alterations include revamping the former boiler room space to make room for the new equipment. A new winding and beaming unit was recently put into operation at the rug mill. It consists of a modern cone winder, large 15-foot reel, an over-end creel, and a huge beamer. With the new machinery it is expected that winding and beaming can be done at lower cost.

The **Cotton Manufacturers Association of Georgia** has announced that Georgia's textile mills, for the fifth consecutive year, have reduced their accident rate. Eleven plants had worked a combined total of 7,592,025 man-hours without a single lost-time accident. Georgia textile mills have racked up a better accident-prevention record than the average for all industries as compiled by the National Safety Council. A total of 104 mills participated in the contest just ended.

Gold-Tex Fabric Corp., Rock Hill, S. C., recently suspended operations temporarily to expedite completion of a major modernization of manufacturing equipment.

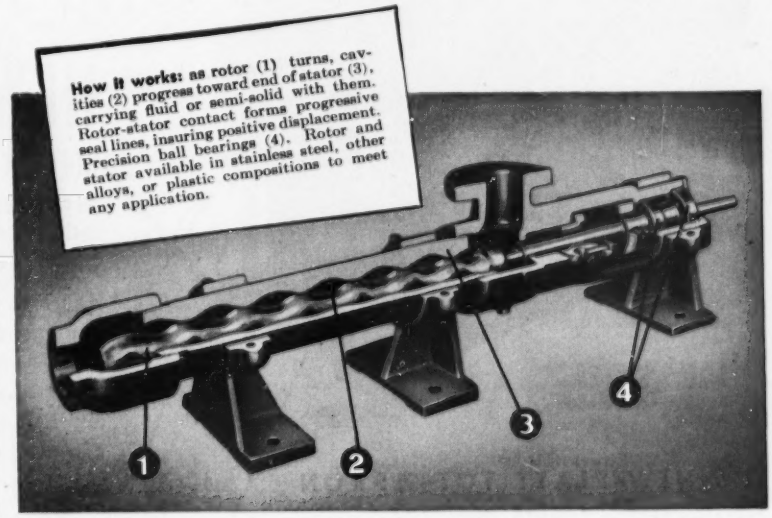
Mendon Morrill, attorney, has been appointed permanent receiver for

What the TEXTILE MILLS are doing

Haledon Silk Mills, Inc., 448 East 18th St., Paterson, N. J.

Scottsboro (Ala.) Knitting Mill, Inc., was recently acquired by new interests. The name has been changed to Scottsboro Manufacturing Corp.

Firth Carpet Co., Firthcliffe, N. Y., has announced plans for expansion in its "Tuftwoven" division. Officials


How it works: as rotor (1) turns, cavities (2) progress toward end of stator (3), carrying fluid or semi-solid with them. Rotor-stator contact forms progressive seal lines, insuring positive displacement. Precision ball bearings (4). Rotor and stator available in stainless steel, other alloys, or plastic compositions to meet any application.
1
2
3
4

If your pump requirements are a little different . . .

The entirely different MOYNO® Pump may be exactly what you need!

FACTS ABOUT THE MOYNO
the world's simplest pump

- **Positive Displacement**—available to pull up to 29 inches of vacuum while discharging under pressure. Big Moynos deliver up to 250 g.p.m. at 600 p.s.i.
- **Gentle**—no foaming; will not break up semi-solids.
- **Reversible**—pumps just as well either way.
- **Trouble-Free**—self priming; won't cavitate or vapor-lock. Just one moving part—no valves to stick, no pistons to gum up. Built for tough service, easy to maintain.
- **Versatile**—handles anything that goes through pipe.

If your materials are viscous, semi-solid, hard to move . . . if they're abrasive or tend to disintegrate . . . find out why Moynos handle jobs where other pumps fail!

The Moyno Pump represents a completely new and different concept of pump design. The cutaway above—and facts at left—show you why it's a pump you can install and *forget.*

And, chances are this versatile pump can solve your problem. Moynos pump clay for a leading pottery maker. They're being used for pumping caustics . . . white water in paper mills . . . even for pumping potato salad!

GET THIS BULLETIN

Get more facts today! Write for Bulletin 30-TI; it will tell you more about the versatile Moyno Pump.

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SPRINGFIELD 99, OHIO • BRANTFORD, ONTARIO

Fractional & Integral Motors & Generators

Electric Fans

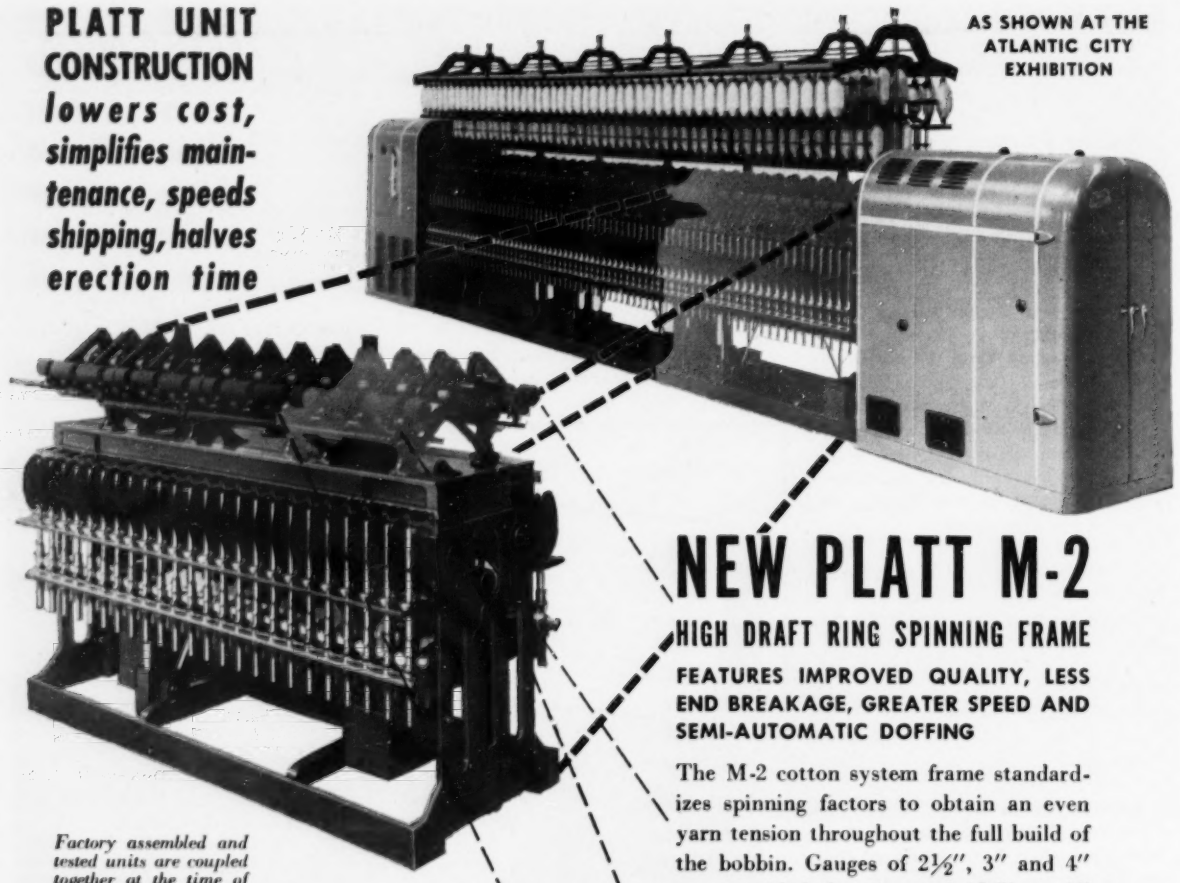
Electric & Hand Hoists & Cranes

Moyno Pumps

Propellair Industrial Ventilating Equipment

PLATT UNIT CONSTRUCTION ***lowers cost, simplifies maintenance, speeds shipping, halves erection time***

AS SHOWN AT THE ATLANTIC CITY EXHIBITION



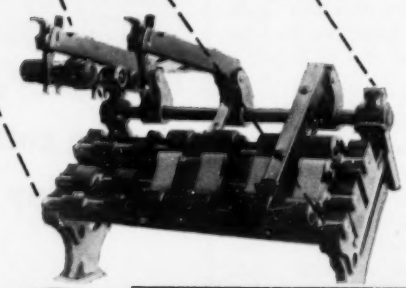
Factory assembled and tested units are coupled together at the time of erection

NEW PLATT M-2

HIGH DRAFT RING SPINNING FRAME

FEATURES IMPROVED QUALITY, LESS END BREAKAGE, GREATER SPEED AND SEMI-AUTOMATIC DOFFING

The M-2 cotton system frame standardizes spinning factors to obtain an even yarn tension throughout the full build of the bobbin. Gauges of 2½", 3" and 4" are provided for rings of 1¾" to 3" diameter, with lifts from 5" to 12".



THE NEW PLATT TOP APRON drafting system is neat, clean and uncomplicated. It is highly flexible with only minor adjustments. Yarn spun with a draft of up to 50 is equal in strength and regularity with yarn spun with lower drafts. A short apron, working over a large second line bottom roller, holds the fibers in a definite path as they are not subjected to the undulations of two aprons. The Pneumafil System is built into each unit.

HEADSTOCK houses the twist and draft gearing, all mechanical and electrical controls and the builder motion that is self-acting, not requiring resetting on the completion of the packages.

PLATT BROS.

SALES LTD, OLDHAM, ENGLAND

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TEXTILE MACHINERY AGENTS & ENGINEERS SINCE 1823

211 CONGRESS ST., BOSTON 6, MASS.

1639 W. MOREHEAD ST., CHARLOTTE 2, N. C.

DOFFING IS SEMI-AUTOMATIC as individual motors automatically set-up the frame for doffing. The operator just replaces the full package with an empty bobbin or tube. How many man-hours could this conserve in your mill?

have organized a subsidiary, **Firth Industries,** to carry on manufacturing and market research.

Highland Textile Printers, Inc., recently organized, will operate a textile dye and print works. The firm is represented by William H. Mackenzie, 44 East Ave., Pawtucket, R. I.

Hollytex Weaves, Inc., cotton carpeting, has moved to 2234 Colby Ave., Los Angeles, Calif. The new plant, which replaces the mill recently destroyed by fire, totals about 20,000 sq ft.

Irwin Lamberg, 1117 Manor Ave., Bronx, New York, is attorney and representative for the recently organized **Honey-Lamb Textiles Corp.** Braiding, trimming, and kindred specialities are being manufactured.

Preparations have been made for construction of a $300,000 plant at Starkville, Miss., to be operated by **Lockport Felt Co.** The firm will manufacture felts used by the paper making industry.

Lorraine Yarn Mills, Inc., novelty yarns, has moved to larger quarters at 426 E. Allegheny Ave., Philadelphia 34, Pa.

M. Lowenstein & Sons, Inc., has organized a new division to act as a selling agent for independent textile mills. First mill to be represented is **Julia Cade Mills, Inc.,** Albertville, Ala.

Ludlow (Mass.) Manufacturing & Sales Co. has announced that its new mill at Indianola, Miss., will not be opened for regular commercial production until the end of the year.

John Martin Textiles, Easton, Pa., have acquired all of the facilities of the silk skein winding and warping business formerly conducted by Joseph Pendlebury at 11½ Van Houton St., Paterson, N. J. Mr. Pendlebury is now an active assistant in the business.

Construction of a one-story mill at Millville, N. J., has been announced by **Andrew Y. Michie & Sons Co.,** Philadelphia, Pa. It will be one-story, 32,000 sq ft floor space, and equipped for production of narrow fabrics of rayon, nylon, and other synthetic materials.

Stock holdings of Karl Robbins, chairman of the board, **Robbins Mills, Inc.,** have been acquired by other interests. The transaction involves about 40% of common shares of stock outstanding.

A new building, to house a weave room and part of a finishing room, has been constructed at **Packard Mills,** Webster, Mass. Being built is a storehouse, and the Carryville plant card room is being enlarged.

Naumkeag Steam Cotton Co., Salem, Mass., has engaged an engineering company to survey its mills and business for improved efficiency in operations.

Schwarzenbach Huber Co. has announced the premier of a new family of fabrics, trade named "Worstrella," which have a highly desirable "silk and worsted" hand and are charac-

CHAMBRAY
LAWN
INTERLINING
NAINSOOK
TICKING
OSNABURG
NETTING

FLANNEL
ORGANDY
OXFORD
DENIM
SHEETING

IMPERIAL
NANKING
CHINTZ

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STANDARDIZED STARCHES

FOR THE SIZING AND FINISHING OF

TEXTILES

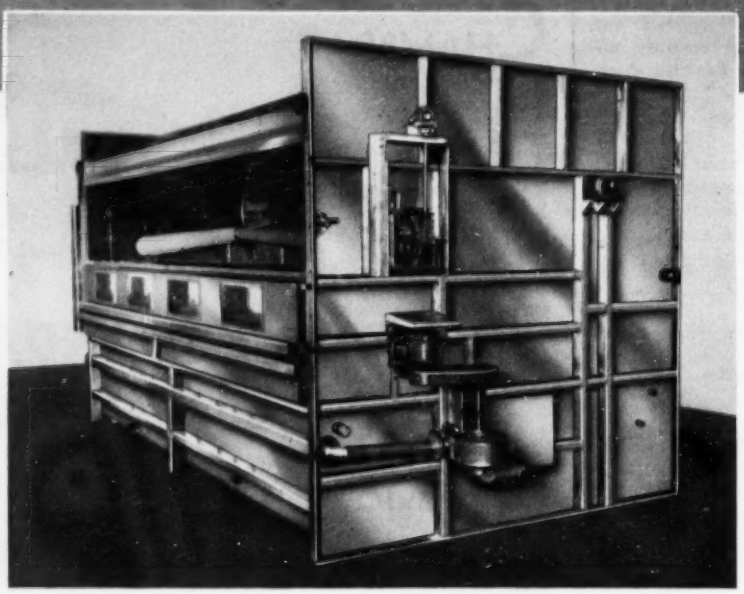
CLINTON FOODS INC.

CORN PROCESSING DIVISION

CLINTON, IOWA

The Fleet Line
RUG DYE KETTLE

With Successful New Features For
LEVEL DYEING · EVEN TEMPERATURE
FULL CIRCULATION OF LIQUOR



R&L Stainless Steel Rug Dye Kettle design solves problems of level dyeing which usually arise from position of rug in the kettle. Two strong impellor pumps induce positive liquor flow, steam and liquor are introduced at *front* of machine. Write for complete data.

FUNCTIONS — Dyes cotton or synthetic rugs in open width, also does rope dyeing.

FEATURES —

Stainless steel throughout, completely self-supporting construction.

Positive liquor flow controlled by pumps maintains even temperature and circulation throughout bath.

Cloth guiders, electronically controlled, automatically center cloth within very narrow limits of traverse movement.

Guiders are rubber covered, may be had in stainless steel.

Three different drive speeds give dyer ample choice for meeting varied conditions and for application of his own dyeing technique.

Steam and liquor introduced at *front* of machine through dispersants running full length of kettle.

Dye dispensers, salt dispensers.

Counterbalanced door easily raises and lowers from any position.

Automatic exhaustion when door is opened.

Interior lighted for easy supervision.

Made in widths to accommodate any size rugs.

ADVANTAGES —

More level dyeing
Positive and assured results
Dyes rugs open widths
Lower labor costs
Faster dyeing cycle
Lower dyeing costs
Dyes in rope form
Easier maintenance

RIGGS AND LOMBARD INC.

FOOT OF SUFFOLK STREET, LOWELL, MASS.

Agents: Paul A. Merriam Co., 1491 Broad St., Providence, R. I. • Albert R. Breen, 80 E. Jackson Blvd., Chicago 4, Ill.
F. W. Warrington Co., 611 Johnston Bldg., Charlotte, N. C. • A. Harold Zayotti, Jr., P. O. Box 125, Riverton, N. J.
H. A. Mott Co. Limited, Brantford, Ontario, Canada

terized by easy wrinkle recovery as well as exceptional resistance to shrinkage.

Mutual Trimming & Binding Co. has moved its plant to 10th and Berks Sts., Philadelphia, where 20,000 sq ft floor space have been leased.

Peerless Finishing Co. recently leased the plant of the former Normandie Finishing Co., Inc., at 20-21 Wagaraw Road, Fair Lawn, N. J.

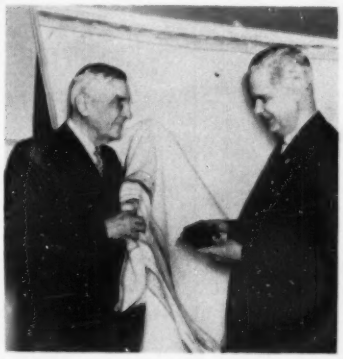
Riegel Textile Corp. has under construction a new mill near Brundidge, Ala., to consist of a one-story structure, equipped for large capacity.

Russell Manufacturing Co., Alexander City, Ala., has made arrangements for erection of a one-story building at Lucedale, Miss., to be occupied under long-term lease as a branch mill.

New-Art Knitwear, Inc., recently organized for manufacture of outerwear, is represented by Mary Silverman, 4421 Avenue K, Brooklyn, N. Y.

Construction is under way at the Hartsville, S. C., branch of **United States Finishing Co.**, of a mill addition for warehouse service.

North Star Woolen Mill Co., which recently celebrated its 90th birthday, presented to The Brooklyn Museum a North Star blanket woven when the company was 12 years old. This is the blanket that won the highest award at the 1876 Philadelphia Centennial. Presenting the blanket, and the bronze medal and certificate of award, to Charles Nagel (right), director of the Museum, is W. G. Northup, president of North Star.



What the TEXTILE MILLS are doing

A modernization and expansion program has been announced by **J. P. Stevens & Co., Inc.**, at its mills in South Carolina. These include the Utica & Mohawk Cotton Mills division at Clemson and Seneca; Appleton Mills division, Anderson; and Piedmont Manufacturing Co. division, Anderson and Piedmont; also at the Victor and Greer rayon fabric mills at Greer, S. C.

Siler City (N. C.) Manufacturing Co. has announced an expansion program at the mill, which includes knitting of 475-needle seamless and 75-gauge full-fashioned hosiery. A new building is being constructed, and new knitting machines and other equipment installed.

United Merchants & Manufacturers, Inc., has sold all machinery and equipment in its A. D. Juilliard & Co., woolen mill at Stottville, N. Y. to Republic Textile Equipment Co., which will liquidate the property.

EIGHTEENTH SOUTHERN TEXTILE EXPOSITION

Textile Hall, Greenville, S. C.

OCTOBER 4-8, 1954

Hours: 9 A.M. to 6 P.M.

See on exhibit the latest developments in

MACHINERY
EQUIPMENT
ACCESSORIES
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TECHNIQUES

Room reservations should be made in advance to

TEXTILE HALL CORPORATION

Greenville, South Carolina

"An institution of the Textile Industry since 1915"

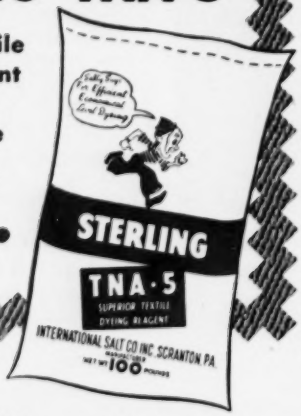
6 ways better!

That's Why, in One Short Year,

STERLING TNA·5

Superior Textile Dyeing Reagent Earned a Big, Industry-Wide

O.K.



A year ago TNA-5 was news! Today, it's newsworthy! It needed only a trial to be enthusiastically adopted in most plants. If you haven't already tried it . . . Sterling TNA-5 will quickly prove itself to *you* in these now-famous six ways:

O.K. Better Colors, Better Finishes. Eliminates dye precipitation, produces a good color yield, level shades and soft finish.

O.K. Efficient, Economical Replacement, pound for pound, for anhydrous sodium sulphate in a neutral dye bath.

O.K. Neutral, Readily Soluble in either hot or cold water.

O.K. Cotton, Rayon, Wool – or any blend of these fibers, in the staple, yarn or piece goods, in a neutral dye bath.

O.K. Dry or Brine . . . either the dry, fine granular form or automatically converted to fully saturated brine with the TNA-5 Dissolver.

O.K. With Direct and Naphthol Dyes . . . especially effective . . . produces excellent crock fastness and clear, brilliant colors.

For more information about Sterling TNA-5, write to:

INDUSTRIAL DIVISION

INTERNATIONAL SALT CO., INC., SCRANTON 2, PA.

SALES OFFICES: Atlanta, Ga. • Chicago, Ill. • New Orleans, La. • Baltimore, Md. • Boston, Mass. • St. Louis, Mo. • Newark, N. J. • Buffalo, N. Y. • New York, N. Y. • Cincinnati, O. Cleveland, O. • Philadelphia, Pa. • Pittsburgh, Pa. • Richmond, Va.

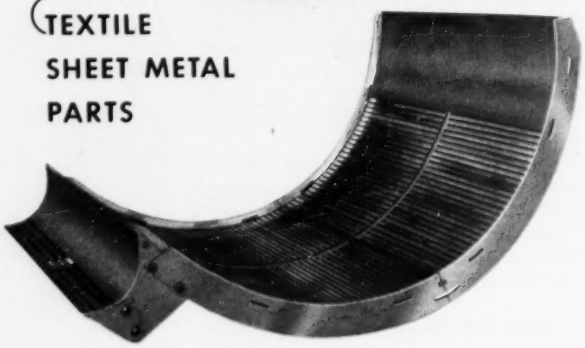
ENGINEERING OFFICES: Atlanta • Buffalo • Chicago

MORE production LOWER costs!

With

Gastonia

TEXTILE SHEET METAL PARTS



Card Screens

Standard type rib or perforated Card Screens are cut and assembled on special precision-built jigs of our own design.

Every piece of metal . . . every point of assembly is gauged with micrometer accuracy . . . checked and double-checked, followed by a thorough, scientific final inspection to assure setting points within standard tolerance.

GASTONIA Card Screens—like all other GASTONIA Products—are made of the finest materials by highly skilled workmen with precision machinery.

Many years of practical experience go into every product.

CYLINDERS
Dynamically balanced for better performance—reduce vibration to an absolute minimum.

SCREENS
Picker, Condenser and Waste Machine Screens of maximum strength and durability.

ASPIRATORS
Precision manufacturing methods assure proper shape and balance of Aspirators and Aspirator Dampers.

LAP CONDUCTOR TINS
WASTE CHUTE COVERS
WASTE CHUTES
SLIVER PANS
BACK TINS

COMBER RENEEDLING
Top Combs, Half Laps and Winder Guide Combs precision-rebuilt of top quality materials to manufacturer's standard specifications. Imported English needles of tempered high-tensile steel used exclusively.

Gastonia TEXTILE SHEET METAL WORKS
Gastonia, North Carolina

A sheet metal works serving textile mills

SUPPLIERS News

WHAT THEY ARE DOING

Acrometal Products, Inc., aluminum bobbins and other metal products, is increasing the size of its Minneapolis, Minn., plant by 8,000 sq ft to serve more adequately the textile manufacturing industries.

Akers Motor Lines have opened a terminal in Boston, Mass., inside the city. The only single line terminal recently established in that city, this is Akers' eighth new terminal in twelve months. It is the only southern line with a terminal in Boston.

R. E. L. Holt, Jr. and Associates, Inc., of Greensboro, N. C., represents **Akron Spool and Manufacturing Co.,** of Cuyahoga Falls, Ohio, in Virginia, Kentucky, North and South Carolina. . . In the Georgia, Tennessee, and Alabama area the company is represented by Belton C. Plowden Co. of Griffin, Ga. The home office continues to serve other areas of the country.

Added to **Allis-Chalmers Manufacturing Co.'s** general machinery division staff are J. S. Morgan, director of utility sales; O. V. Tally, director of industrial sales; and W. L. Manly, director of general purpose equipment sales. A northwest region, under the management of M. M. York, has been formed. J. H. Burrus, Jr., succeeds Mr. Tally as manager of the midwest region. Succeeding Mr. York in the New England region is John E. Smet. The **Electric Motor & Machine Service,** Henderson, N. C., has been appointed a distributor for Allis-Chalmers' motors, controls, and "Texrope" equipment in certain counties in Virginia and North Carolina.

A new trade service announced by **Althouse Chemical Co.** enables cotton and rayon finishers to obtain the colorfast seal of the American Institute of Laundering free of charge.

American Cyanamid Co.'s organic chemicals division has announced the appointment of Linton A. Fluck as manager of the textile resin department. Theodore F. Cook is now his assistant, and Philip B. Roth is manager of the application laboratory.

American Air Filter Co., Inc., has appointed John W. Frazier field manager of air filter sales. He formerly was with Trion, Inc.

American Alcolac Corp. has added to its staff Dr. L. B. Arnold, Jr., who has been named technical textile consultant. He will specialize in the

Dr. Arnold

sales of detergents and chemicals for the firm's textile customer service department.

J. L. Pischke has been elected president of **The American MonoRail Co.,** succeeding J. P. Lawrence, now chairman of the board. C. L. Fell and Carl Harris were added to the board of directors.

The Associated Agents, Inc., was recently formed by J. H. Aydelette and Jesse B. Bateman to act as manufacturers' agents, selling almost exclusively to the textile industry. Mr. Aydelette was formerly with Greensboro Loom Reed Co., Inc.

Henry W. Doctor has been made a district sales manager for the tubular products division of **The Babcock & Wilcox Co.** He will supervise the firm's sales out of the new Cincinnati office.

The Philadelphia district office of **Bailey Meter Co.** has moved to larger quarters at 29 Bala Avenue, Bala Cynwyd, Pa. The office is under the management of H. C. Tanner.

Assets of Service Caster and Truck Corp., Albion, Mich., have been purchased by **The Colson Corp.** The move expands Colson's production facilities to a total of four plants.

The activities of **Barrett-Cravens Co.'s** two Chicago plants and its Crescent Truck division, formerly at

Are You Getting a Fair Day's Work for a Fair Day's Pay?

As Production Engineers we specialize in the utilization of

LABOR — EQUIPMENT — MATERIAL

Our list of clients reads like the Blue Book of American Manufacture, and in our files are many expressions as to our service and results accomplished, like the following:

"Their representatives employed in installing this system were of high caliber, and we are greatly pleased with the result of their work."
ONE OF THE COUNTRY'S LEADING HOSIERY PLANTS

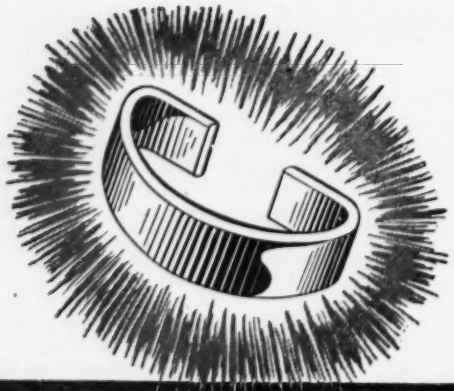
Write for a free copy of "Labor and Management Benefit by Industrial Engineering Principles," and our booklet "A Fair Day's Pay and in return A Fair Day's Work".

AMERICAN ASSOCIATED CONSULTANTS, Inc.

D. S. KEOGH, President — 250 PARK AVENUE, NEW YORK 17, N. Y.

GRANT BUILDING, PITTSBURGH, PA.

H. B. CRAFT, Vice President and Manager of Operations — 30 CAMDEN ROAD, ATLANTA, GA.



DARY
Ring Travelers

FIFTY YEARS IS A LONG TIME

For fifty years and more, Dary ring travelers have enjoyed a sound reputation in the textile trade. We at Dary are proud to have maintained that reputation so consistently—because half a century is a long, long time.

Our experience is yours to command. Consult your friendly Dary representative!

Always specify
DARY Ring Travelers

THE DARY RING TRAVELER CO.
TAUNTON, MASSACHUSETTS

LINDSEY I. PHILLIPS, TREASURER, TAUNTON, MASS.
JOHN H. O'NEILL, BOX 720, ATLANTA, GA.
JAMES H. CARVER, BOX 22, RUTHERFORDTON, N. C.
CRAWFORD RHYMER, BOX 2261, GREENVILLE, S. C.

HIGHEST QUALITY SULPHUR-DIOXIDE

IT'S SO_2
...RIGHT ON THE HEAD!

In a large number of processes, a more satisfactory and economical operation is achieved through using Tennessee's highest quality Sulphur-Dioxide. Maybe you have a specific operation problem in which this product would hit the nail on the head. Many plants and refineries have already discovered the way to higher profits and better results by using our product with its many uses. We can supply Tennessee's highest quality Sulphur-Dioxide in cylinders, ton drums, tank cars, and tank trucks. Let our own technical experts show you how you might employ it to your greatest advantage.

CONTAINERS

- **Cylinders**
- **Ton Drums**
- **Tank Trucks**
- **Tank Cars**

Samples, Specifications and Detailed Information on Request.

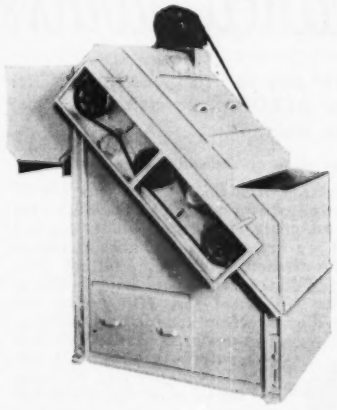
TENNESSEE TC **CORPORATION**

617-29 Grant Building, Atlanta, Georgia

CLEAN!

Webster defines the word "clean" thus: "Free from whatever sullies or defiles; pure; unsoiled." In other words, like a freshly picked chicken **or better still**, like cotton processed by a CENTRIF-AIR SUPERIOR PRE-OPENER AND CLEANER.

Mill tests have proved an increase of up to 75% in cleaning efficiency can be effected by the SUPERIOR PRE-OPENER AND CLEANER when installed following each blending feeder. Write for details today.



CENTRIF-AIR
MACHINE COMPANY, INC.
880 ASHBY ST., N.W.
ATLANTA, GEORGIA

SUPPLIERS News
WHAT THEY ARE DOING

Lebanon, Pa., have been consolidated at the recently completed plant in Northbrook, Ill. The new plant also houses the activities of the **Barrett Electronics Corp.**, with A. M. Barrett, Jr., as president.

Eden and Associates, recently organized to provide counsel and service to business and industry, are headed by Paul L. Eden. Headquarters for the new firm are at 520 Superior Ave., N. E., Cleveland 14, Ohio.

The **Fidelity Machine Co., Inc.,** recently presented a new Model 10 Fidelity skein reeler to the physical testing laboratory of the N. C. State College School of Textiles. This is the third machine Fidelity has given to the school.

W. W. Frymoyer, with the firm since 1926, has been elected a vice-president of **The Foxboro Co.**

Ralph E. Elwell has been appointed southern sales representative for **Berkshire Color & Chemical Co.** His

Mr. Elwell

territory is North and South Carolina, with headquarters in Charlotte. Mr. Elwell was previously with Sandoz Chemical Works.

Charles Thompson, previously with Burlington Mills Corp., has joined **The Chemstrand Corp.** as group leader in dyeing application. Added to the firm's technical sales staff are William B. Thomas and Lamar Beach. They have been assigned to the Decatur, Ala., headquarters.

R. D. Cole Manufacturing Co., Newnan, Ga., is celebrating its 100th anniversary. Founded by Robert Duke Cole, Sr., and Mathew Cole, in 1854, the firm has had only three

The **EMBLEM OF QUALITY METAL SHIELDS**
For Spools and Bobbins

Anderson Shields are dependable protection against chipping, splitting, and breaking of spools, bobbins, and paper caps. Even the most minute details are carefully worked out to make Anderson the highest in precision, the smoothest in finish, the best in performance. The Anderson Emblem is your assurance of the finest shields you can buy.

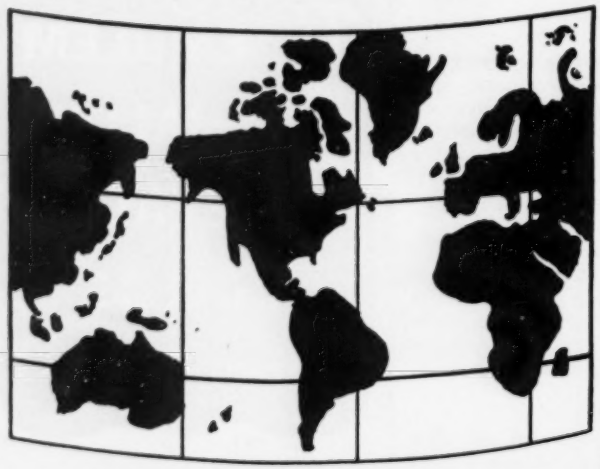
Insist on Anderson when you order metal shields regardless of when you buy spools and bobbins.

TEXTILE SHIELD CO., INC.
J. N. ANDERSON, Treasurer
LAWRENCE, MASS., U. S. A.

JOHNSON SIZERS

mean Uninterrupted Service and Low Maintenance

Here and in 40 Foreign Countries



In the United States and in 40 foreign countries including the republics of Latin America, in Europe, Asia, and Australia, Johnson sizers are turning out quality warps day after day, year in and year out for hundreds of mills giving uninterrupted service and low maintenance costs.

An important factor assuring users of Johnson sizers trouble free service is the complete assembly and running, at the Johnson plant, of every sizer to be sure each part fits properly and the machine runs smoothly. All parts are doweled to assure accurate fit on reassembling the machine at the plant.

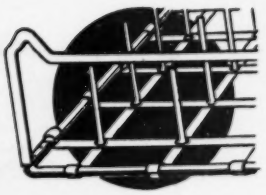
Write for our three-color 20-page catalog giving a point by point description of the Johnson sizer, with special section describing new features.

Charles B. Johnson

MACHINE WORKS

22 Piercy Street **Paterson, New Jersey**

Bobbin Racks Cleaned 100% Without Brushing



Less than 10 minutes is all it takes to clean cadmium metal racks used for transporting bobbins of yarn about the mill. High humidity causes lint and dust to collect on racks and because of their construction, manual brushing is a time-consuming operation. The right method is as easy as . . .

- **A—Immerse in solution of Oakite Composition No. 8 mixed with kerosene.**
- **B—Pressure-spray rinse.**
- **C—Hot-air dry.**

Soils are removed 100% without manual brushing. This is just one of the many textile cleaning problems that Oakite materials and methods are overcoming. The FREE handbook, Textile Mill Cleaning Guide, gives thorough and economical solutions to many others. Get a copy today, write: Oakite Products, Inc., 26C Rector Street, New York 6, N. Y.

SPECIALIZED INDUSTRIAL CLEANING

OAKITE

MATERIALS • METHODS • SERVICE

Technical Service Representatives in Principal Cities of U. S. & Canada

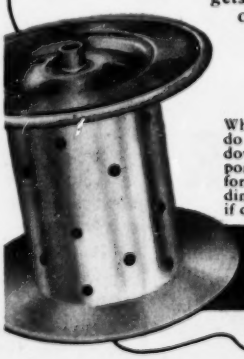
DO YOU PROCESS

Helanca Yarns?

If so it will pay you to investigate these new ACROPAK precision aluminum Bobbins

They stand up under high pressure

These precision ACROPAK Bobbins are of advanced engineering design; light weight, yet stronger and more rigid than old fashioned bobbins. They breeze through high pressure runs without distortion or bobbin failure. You can be sure of concentricity and level winding. They do the job better and with greater accuracy. Light weight speeds up handling, gets more work done with less operator fatigue. A trial run will convince you. Will you let us give you the facts?



ACROPAKS will save you money

When you use Bobbins that last longer, do the job better and refuse to break down under pressure, you gain an important advantage competitively. Ask for the facts. Available in all standard dimensions, with perforated barrels, if desired, for steaming.

ACROMETAL PRODUCTS INC.

616 Fifth St. No., Minneapolis 1, Minn.

Write to Dept. *Ti-21*

presidents. During its history, the company has participated in the four wars, from the Civil War, when rolling-stock was repaired and built, to World War II, when it devoted 100% of its capacity to the Maritime Commission for construction of prefabricated ship parts.

J. E. Quinty is now in charge of **Emery Industries, Inc.'s,** sales of fatty acids and derivatives, plasticizers,

Mr. Quinty

Mr. Major

and textile oils in northeastern Pennsylvania and parts of northern New Jersey. W. J. Major has been added to the chemical sales staff.

Commercial Factors Corp. has appointed James W. Daniel representative in the eastern, southern, and west central states. He was formerly with Slumber Products Co.

Cuno Engineering Corp., Meriden, Conn., has appointed **James A. Plummer & Co.** exclusive industrial sales representative for the Middle Atlantic states. Mr. Plummer has been with Cuno for twelve years in various executive capacities.

The plant of **Fisher Manufacturing Co.,** Hartwell, Ga., builders of textile trucks and other materials handling equipment, was largely destroyed by fire on June 1. However, the plant is now being rebuilt, and, according to J. Glenn Fisher, partner and general manager, production will be resumed early in July.

Franklin Process Co. was recently presented the Award of Merit for the physical appearance of space advertising in the 1954 Creative Awards Competition of the National Advertising Agency Network. The award was won for the firm's yarn dyeing advertising campaign, which appeared in several textile magazines including TEXTILE INDUSTRIES.

John Hilldring was recently elected executive vice-president of **General Aniline & Film Corp.** He joined the firm in 1947. Frank L. Esposito was named controller of General Dyestuff Corp. and the Dyestuff and Chemical division of the firm. He succeeded Arthur J. Young, now controller of the parent company. General Aniline has announced plans for a $3,000,000 multi-product chlorine-caustic plant, to be located adjoining the installation at Linden, N. J.

The first in a series of productive maintenance forums conducted by **General Electric Co.,** were held in Chicago and Cleveland early last month. Others are scheduled throughout the nation, to provide industrial management people with the basic facts of productive maintenance. This firm recently dedicated a $25,000,000 medium transformer plant at Rome, Ga., which is expected to reach full production in April, 1955, employing about 1,700 persons. In this new plant all the company's line of medium transformers will be manufactured.

Herman L. Fellton, consulting sanitary engineer, was recently elected president and chairman of the board of directors of **Getz Exterminators, Inc.,** 600 N. Highland Ave., N. E., Atlanta, Ga.

SUPPLIERS & News
WHAT THEY ARE DOING

Graver Water Conditioning Co. has opened a western European office at 51 Toldbodgade, Copenhagen, K., Denmark. It is under the direction of Jorgen Berring, European sales engineer.

Les Jansen has been made eastern division sales engineer for **Hyster Co.** He will work out of the Danville, Ill., factory. Dealers of Hyster recently announced that they have initiated a written warranty program on used lift trucks, designed to give confidence to small-business buyers or those who need a second truck.

Morris Kaplan has formed the **Ideal Knitting Machinery Corp.,** 60-84 Myrtle Ave., Brooklyn, N. Y., for purchase and sale of all types of reconditioned knitting and related equipment.

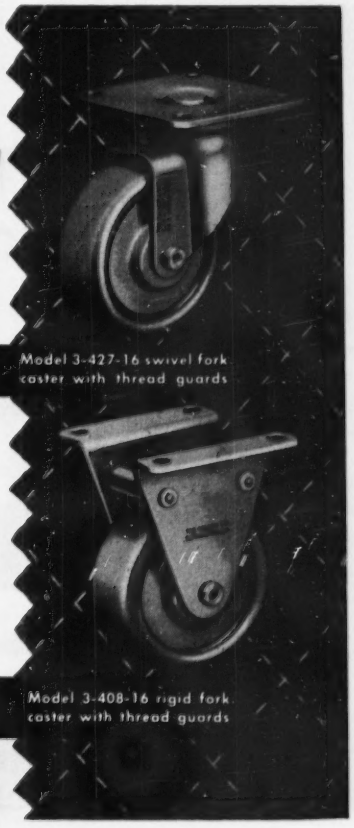
William R. Browne has been added to the sales staff of the Fiber Glass

Designed
by the Textile Industry
built by Colson®

Our friends in the Textile Industry worked with us in developing casters and materials-handling trucks to meet their needs—*exactly*. The result is a line of casters, hand trucks, platform trucks, box trucks, and drum and barrel trucks that can add extra efficiency to any mill operation. COLSON Casters roll easily over all floors, swivel freely, are rust resistant. Many models have thread guards. Write us or consult the yellow pages for the COLSON office near you.

Write for free catalog—
"COLSON Trucks and Casters"

THE COLSON CORPORATION
ELYRIA, OHIO
CASTERS LIFT JACK SYSTEMS INDUSTRIAL TRUCKS

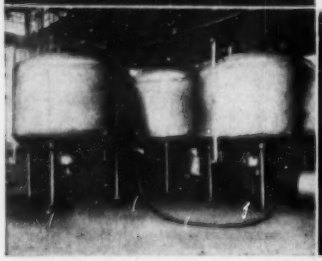


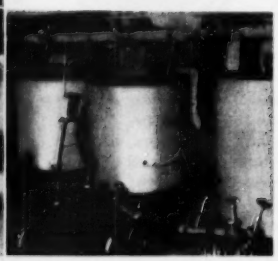
TANKS and vessels that are CORRECT in design

COLE has specialized in the design, fabrication and erection of elevated tanks, and vessels for the storage of textile liquids, for four generations.

We build dye-vats, kiers, starch-kettles, acid tanks, jib-boxes and other processing vessels for the finishing and dyeing industry —in stainless steel, nickel-clad steel, or of standard steel lined with Monel metal.

Our long experience in the design and fabrication of elevated tanks and vessels for the textile industry may be of help to you. Write for latest Cole catalog—"Tank Talk."



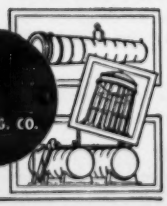


Established 1854

R. D. COLE MFG. CO.

NEWNAN GEORGIA

ELEVATED TANKS • VESSELS • CYLINDERS
TOWERS • BINS • STANDPIPES



Johnson Self Supporting Joints

Now Smaller Size
- Lighter Weight
- Lower Cost
- Longer Life

WRITE FOR NEW CATALOG

THE JOHNSON CORP., 815 WOOD ST., THREE RIVERS, MICH.

Time for all Mills to get Lazenby Winders!

Stop fooling around with winders that do half a job. Get Lazenby, and you get the best! Winders by Lazenby precision-made to give you efficient, maximum yardage. Simply send us a small supply of your yarn and we'll wind and return with Test Windd Report and Catalog.

F. A. LAZENBY COMPANY

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W. R. C. Smith Publishing Co.
Dept. T-6A
806 Peachtree St., N. E.
Atlanta 5, Georgia

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division of **Libbey-Owens-Ford Glass Co.** in the New York area.

J. P. McGinty has joined the southern sales force of the **Laurel Soap Manufacturing Co.**

William P. Drake is now president of the industrial chemicals division of **Pennsylvania Salt Manufacturing Co.** He is responsible for both the manufacture and sale of the firm's industrial chemicals.

J. G. Pleasants has been elected to the newly-created post of vice-president in charge of research and development of **Proctor & Gamble Corp.** J. M. Elwell is now manager of the manufacturing department, and F. A. Brown becomes manager of the department of technical staff divisions.

A. F. McDonald now heads **Reilly Tar & Chemical Corp.'s** new sales office in Detroit, Mich. The address is 3049 East Grand Boulevard.

H. Bigelow Moore has been added to the Philadelphia sales staff of **Reliance Electric and Engineering Co.**

J. O. Ross Engineering Corp. has named Charles R. Herter as sales engineer in its Detroit office.

Lawrence C. Connolly has been appointed manager of the Boston sales office of Fielden Instrument Division, **Robertshaw-Fulton Controls Co.** This Division has named Equipment Sales Corp. as its sales representative for the eastern Tennessee area.

Christian de Guigne, formerly president, has been elected chairman of the board of **Stauffer Chemical Co.** Hans Stauffer, previously executive vice-president and general manager, is now president.

E. R. Friese was recently named vice-president of **Sun Chemical Corp.,** after being with the firm since 1936. M. J. Hoover was appointed sales director and a member of the corporation's management committee. He will be responsible for the coordination of the activities of all Sun Chemical's sales divisions, which include Warwick (textile and industrial chemicals, waxes).

Harry Agulnek, formerly plant superintendent, is now vice-president in charge of research and development of **Supreme Knitting Machine Co.**

A classroom recently dedicated at the **Philadelphia Textile Institute** was named in honor of Victor H. Berman, the late president of **Onyx Oil & Chemical Co.** Left to right in the picture are: Richard G. Dexheimer, executive vice-president of Onyx; Leon P. Brick, vice-president; Bertrand W. Hayward, director of the Institute; Richard S. Cox, dean; and Rinaldo A. Lukens, president. It was noted that Onyx had contributed $14,000,000 to the Institute Foundation fund.

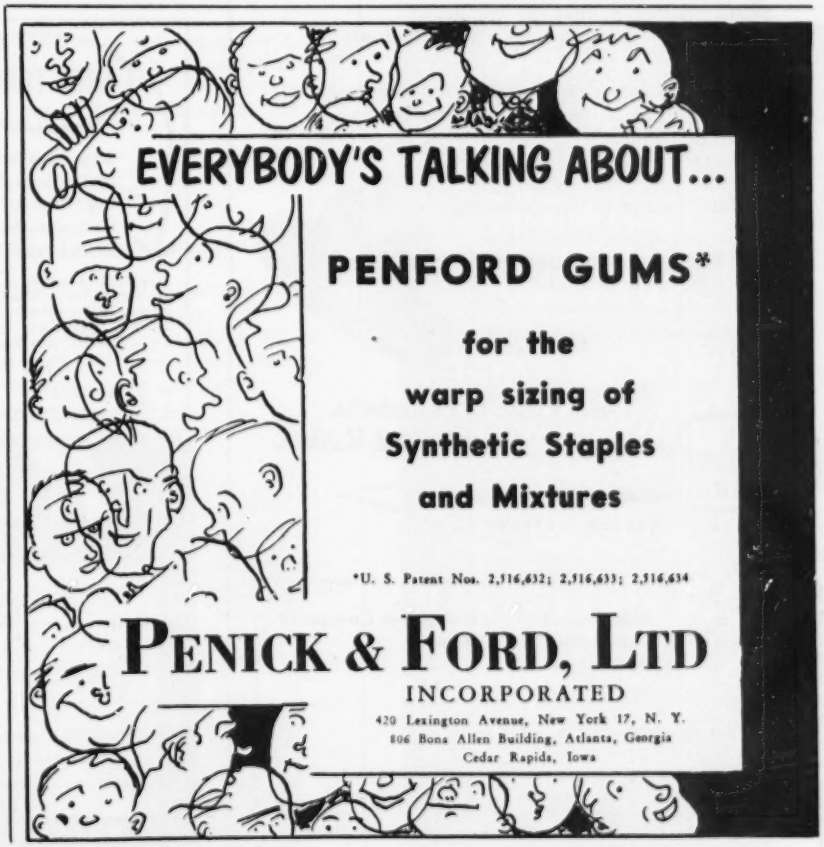
SUPPLIERS News
WHAT THEY ARE DOING

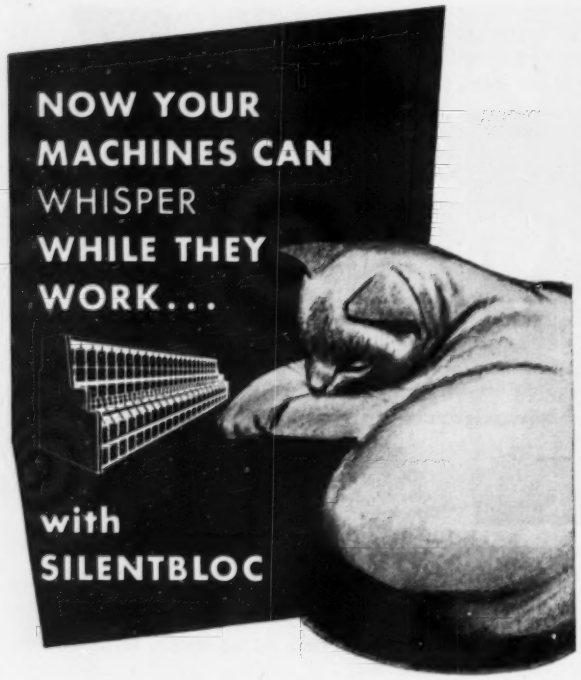
C. G. Sargent's Sons Corp. has received from the American Mutual Liability Insurance Co. its American Mutual Certificate of Award for having had 300,000 man hours of plant operation without a single lost-time accident.

Sonoco Products Co., Hartsville, S. C., has qualified for the Award of Honor, highest of the three awards made annually by the National Safety Council. This is the second straight year that Sonoco has qualified for this award.

S. Crawford Bonow has been appointed manager of the manufacturing division; Paul Kaplan, manager of the technical division; and Albert R. Robbins, manager of the New York laboratories of **Stein, Hall & Co., Inc.**

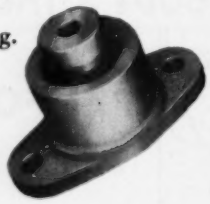
James Dillon was recently elected vice-president, and S. A. Segal, secretary of **National Starch Products, Inc.**





Silentbloc rolling joint mountings offer a proven way to reduce damaging vibration in textile machinery. In these unique mountings, rubber completely insulates the inner metal member from the outer bolting flange so that the machine bolted to the inner member actually floats on rubber.

Installation is simple too . . . it is necessary to raise the machinery approximately 2½", locate the mountings, and provide three bolts for installation. If needed, adaptors can be provided to adjust the final height of the mounting.



For immediate attention to your vibration problems send us the facts on your company letterhead...for more information fill out the coupon below.

"From Plans to Products in Plastics and Rubber"

THE GENERAL TIRE

Industrial Products Division

WABASH, INDIANA

The General Tire & Rubber Company
Industrial Products Division
Wabash, Indiana

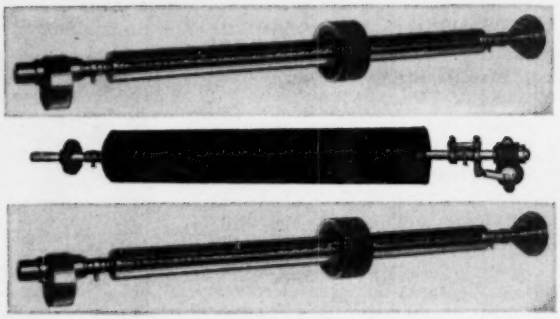
☐ Send literature on Silentbloc vibration mounts
☐ Have your representative contact us

Company_____ Name_____

Street_____ City_____ State_____

TI-7-54

TWINS *plus* ONE



A pair of improved Roy Traverse Grinders and one improved Roller Grinder and there you have it. Your card clothing will always be tops in efficiency.

Sales Engineers in the South
William P. Cooper • Leon F. Frye

Southern Office and Plant
Linwood and Second Ave. • Gastonia, N. C.
Telephone Gastonia 4-2126

B. S. Roy & SON COMPANY
WORCESTER, MASS. • GASTONIA, N. C.

FREE TRIAL

Davis Card Scavenger Roll Covers®

Strip Clean Instantly
Fit Any Sized Roll
Hug "Beat-Up" Rolls Tightly
No Seams—No Frayed Ends
Outlast Paper or Cloth Covers—3 times

Free Trial: Send us an old scavenger roll to be recovered. We will return it to you prepaid and let you be the judge.

We also make: Knit Dye Tubing; Sheepskin and Cloth Clearers; Star Brand ★ Roller Varnish.

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P. O. Box 1003 Telephone 5-2791 Gastonia, N. C.

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TEXTILE APRONS

KENTEX long draft aprons are precision-built, to any specifications, on short notice. Write us, sending size, for free samples and prices. We are world's largest manufacturers of genuine leather textile aprons.

TEXTILE APRON COMPANY
East Point, Georgia
Hugh Williams & Company—Toronto, Canada

PRECISION BUILT

See how Westinghouse stopped them in Atlantic City

Visitors to the recent American Textile Machinery Exposition in Atlantic City, N. J., were treated to a unique and informative presentation in the "phonomimic" demonstration staged by Westinghouse Electric Corp.

This device invited the audience to lend an ear to a "sound" message on Type AV multi-motor slasher drive . . . delivered in silence!

The art of phonomimicry involves the synchronization of one's lips to a voice on a phonograph record. Hence the descriptive term . . . phonomimic.

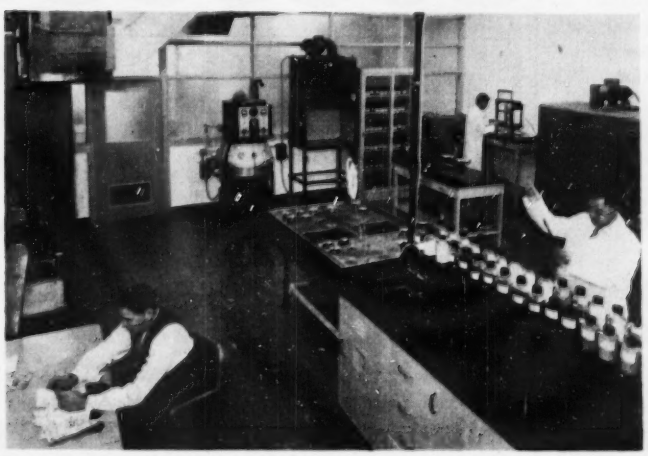
Trade expositions as a rule do not permit the use of noise making devices or the blasting of sound on public address systems. To circumvent this Westinghouse presented phonomimic without audible sound. A group of earphones was placed directly in front of a tastefully uniformed girl demonstrator. When a phone was put to the ear the girl's "voice" came to you as if by magic. She had synchronized her lips to the recorded message. Without the earphones you merely saw her lips move.

She gestured and "talked" without a sound being heard, thus attracting much attention, and the curious viewers were drawn to the earphones to add the sound.

Newest branch of Allied Chemical and Dye Corp.

National Aniline Division of Allied Chemical and Dye Corp. recently established a new branch laboratory at 1216 Spring St., N.W., in Atlanta, Ga. John A. Boykin is district manager for the company.

An interior view of the laboratory is pictured below, showing the modern equipment.



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SPECIALIZED ENGINEERING

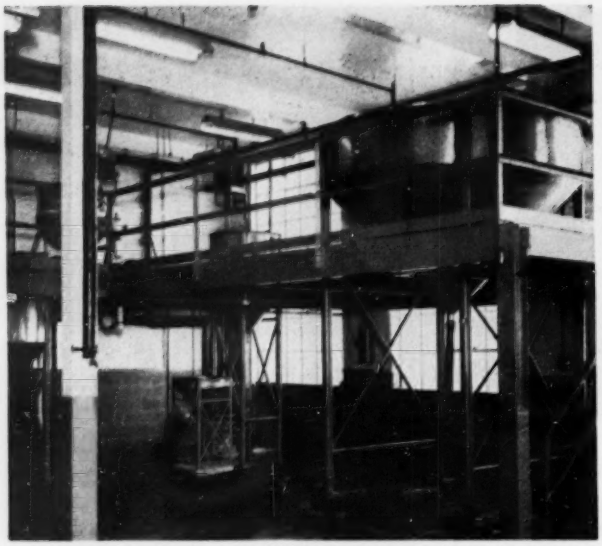
SPECIALIZED EXPERIENCE

SPECIALIZED MACHINERY FOR TWISTING BUNCHING STRANDING FORMING AND LAYING IN THE TEXTILE • WIRE CORDAGE AND MANY OTHER INDUSTRIES

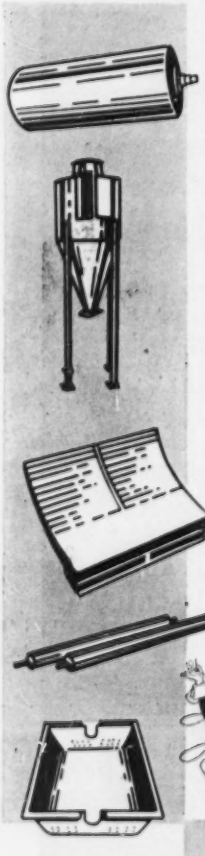
WRITE TODAY. YOUR INQUIRY WILL GET PROMPT ATTENTION

HASKELL-DAWES MACHINE CO., INC.

2231 E. ONTARIO ST.
PHILADELPHIA 34
PA.



for economy it's STAINLESS STEEL



Down go maintenance and operational costs when you switch to stainless steel! Corrosion, wear and break-down resulting from them are eliminated by the use of this modern wonder metal . . . Consider replacing your old-fashioned hard to clean and maintain pressure vessels, acid tanks, dye vats or starch kettles with SIMS built stainless steel equipment.

for Quality it's

SIMS

With one of the most modern and progressive metal working shops in the south, the technical "know-how" of SIMS craftsmen and the SIMS guarantee of quality products, you are assured of equipment built to your *exact* specifications.

For *Custom Tailoring* of Stainless Steel . . . Call, wire or write today.

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Sims METAL WORKS

WEST POINT, GA.

static electricity

Our anti-static agents have solved many problems caused by static electricity in the various stages of textile processing. Can we be of assistance to you?

dexter

Textile Chemicals

TEXTILE CHEMICAL DIVISION
DEXTER CHEMICAL CORPORATION
NEW YORK 59, N.Y.

PHILADELPHIA • BOSTON • CHARLOTTE • ATLANTA
GREENSBORO • BUENOS AIRES

Fletcher

SINCE 1850 • PIONEERS IN
TEXTILE EXTRACTORS
NARROW FABRIC LOOMS
THROWING MACHINERY

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COTTON YARNS

Knitting and Warp

4's to 30's — Single and Ply

Uniformity

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COMER-AVONDALE MILLS, INC.

Boston — Chattanooga — Chicago — Charlotte — New York
Philadelphia — Reading

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AVONDALE MILLS, Sylacauga, Alabama
COWIKEE MILLS, Eufaula, Alabama

SUPPLIERS News
WHAT THEY ARE DOING

Intercontinental Chemical Corp. has acquired an interest in **Metro Dyestuff Corp.** Sales of Metro will continue to be made by Metro-Atlantic, Inc., and other established trade channels, and there will be no change in management.

Miller Fluid Power Co. has added Dave Alexander to the sales staff in the Philadelphia area; Wilfred A. Pehl is field engineer for the Cleveland territory.

John W. Stewart has joined **Monsanto Chemical Co.'s** plastics division as sales representative of resin products in the New England area.

New technical sales representatives for **Oakite Products, Inc.,** are: Richard J. Price, Portland, Ore., area; Malcolm N. Gray, Lincoln, Neb.; John N. Lee, Miami, Fla.; Gale R. Miller, Cincinnati, O.; Kenneth L. Oliver, Fort Wayne, Ind.; Thomas D. Ellsworth, Grand Rapids, Mich.; D. O. Mundale, Asheville, N. C.; Haskell Wilder, LaCrosse, Wis.; Lloyd W. Kagley, Knoxville, Tenn.; William D. Hudson, Topeka, Kan.; and Henry W. Dieter, Youngstown, O.

David C. Black has been added to the sales staff of **Carolina Specialty**

Mr. Black

Co. He will assist in the sale of special machinery to the textile and allied trades.

William C. Buffing, Jr., previously with Simmond Aerocessories, Inc., has joined **National Starch Products, Inc.,** as controller.

National Vulcanized Fibre Co. has announced plans for a modern research laboratory to be housed in

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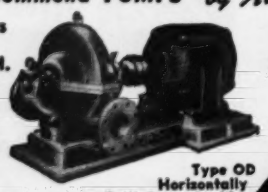

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SUPPLIERS News
WHAT THEY ARE DOING

what is now a large stone warehouse at Yorklyn, Del. It will be renovated at an estimated cost of nearly a quarter of a million dollars, and will have 20,000 sq ft floor space.

Thomas A. Printon has been made chairman of the board as well as president of **Nopco Chemical Co.** He succeeds Charles P. Gulick, now honorary chairman.

The **Ohio Gear Co.**, Cleveland, O., has announced representation in Atlanta, Ga., and Birmingham, Ala., by the **Alfred Halliday Co.**

Robert A. Reese, with the firm since 1948, has been assigned to sales in the New York State territory by

Mr. Reese

Standard Pressed Steel Co. He will make his headquarters in Rochester.

G. H. Edwards, president of **Textile Paper Products, Inc.**, in Cedartown, Ga., has announced that work has already begun on a new $80,000 paper products manufacturing plant in Crossett, Ark. Scheduled for completion in September, 1954, the plant will contain 11,000 sq ft of floor space designed for future expansion, and will produce paper tubes, cores, and other paperboard products used by the textile industry, and by pulp and paper plants. The parent Cedartown plant will continue to serve the southeastern states; the new plant the southwestern and central regions.

Paul J. Mazzochini, after a year's absence, has rejoined **Union Special Machine Co.** and is serving as field engineer in the product application department.

The **Whitin Machine Works** has made a new agreement with the Casablancas High Draft Co., Ltd., of Salford, Eng., under the terms of which many of the Casablancas products for the drafting area will be

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write for complete information and illustrated bulletin

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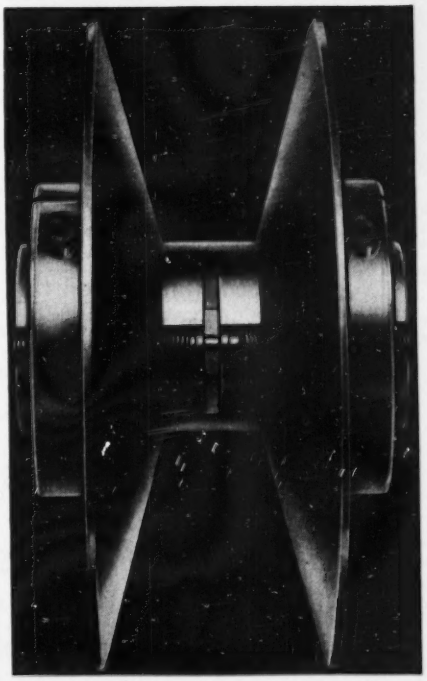

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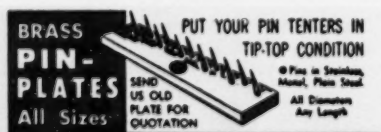

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SEE COUPON ON PAGE 196

available for application to Whitin machinery. J. Hugh Bolton, president of Whitin, has been elected a member of the board of directors of the National Shawmut Bank.

New vice-presidents of **Westinghouse Electric Corp.** are: Walter J. Maytham, Pacific Coast regional manager; Dale McFeatters, director of information service; Otis O. Rae, southeastern regional manager of the apparatus divisions; and Donald C. Burnham, vice-president in charge of manufacturing. E. V. Huggins, vice-president of corporate affairs, has also been named secretary . . . Roger H. Bolin has succeeded Harry J. Deines, resigned, as manager of general advertising for the corporation. He has been associated with Westinghouse since 1925.

Schuyler E. Tylee has been elected president of **Jacques Wolf & Co.**; Gerald J. Desmond, vice-president, treasurer, and general manager; and Arnold Pfister, secretary and plant manager.

Allan L. Burton is now doing market research and electronic development work with **Veeder-Root Inc.**

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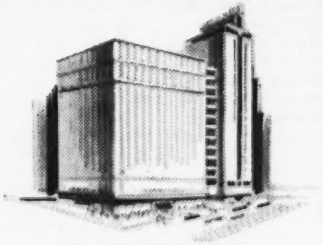

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AATCC Symposium

(Continued from page 110)

lems dyers will have to meet.

The best way to extract water from filament and spun rayon fabrics was described by Charles Minoff, Texstyle Corp., in answer to a floor question, as the use of 10 to 20 inches of vacuum on a vacuum extractor. Spuns, which present more of a problem than filament rayons, must be watched in the extractor so that lint does not clog the screens and reduce vacuum below 10 inches. Mangling, given extensive trials, has not proved to be the answer to better extraction because of the high percentage of moisture that is actually absorbed into the rayon fiber.

When asked what steps should be taken to assure better performance for textile consumers, Everett C. Atwell, Burlington Mills, listed complete quality control including checks on staple fibers, weights of picker laps, count, evenness, strength and elongation of yarns, and inspecting and grading of grey goods. To insure satisfactory usage performance, Mr. Atwell suggested that test results be interpreted in terms of consumer service; routine test report language should be simplified and clarified. A second suggestion was the establishment of minimum standards directed to specific end uses and based on known correlation with performance.

George H. Hotte, National Aniline Division, explained the difference between Nylon 6 and Nylon 66 at the request of a member of the audience. Nylon 6 has greater dye affinity, lower melting point, higher moisture regain, is softer and more pliable, and may be as high as 20% more abrasion resistant than Nylon 66.

A question concerning the outstanding features of the newer fibers as applied to knit goods was answered by Rudolph C. Geering, Princeton Knitting Mills. He cited the compatibility of the new fibers with optimum requirements in knit goods, which are: dimensional stability and wrinkle resistance through heat setting, strength and durability, plasticity, and resiliency. While treatment with finishes can bring out these qualities in conventional fibers, the nature of knitted cloth does not readily lend itself to such processing.

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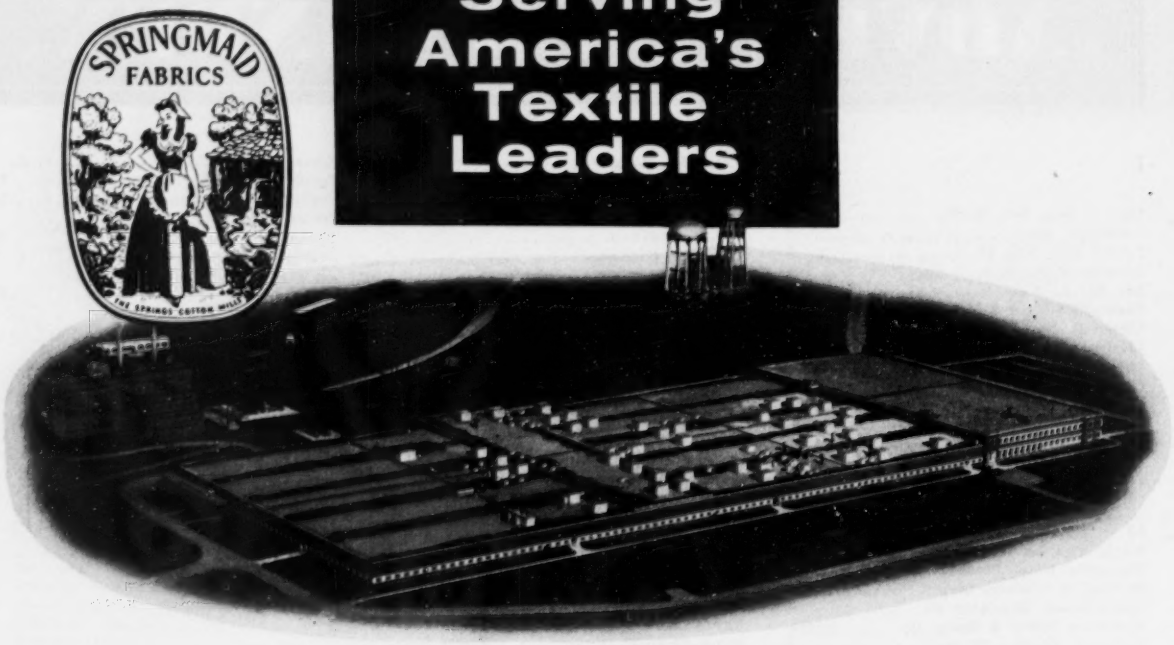
Serving America's Textile Leaders



One of the largest and most modern finishing plants in the world is the huge 11-acre Grace Bleachery of The Springs Cotton Mills, located near Lancaster, South Carolina. Some 8,000,000 yards of top-quality SPRINGMAID fabrics are being finished at this plant each week at a low unit cost, thanks to revolutionary continuous processes using the most advanced bleaching, dyeing and finishing machinery.

Robert and Company Associates, with 39 years experience in designing and engineering textile units of all types, is proud to have served as architects and engineers for this modern finishing plant.

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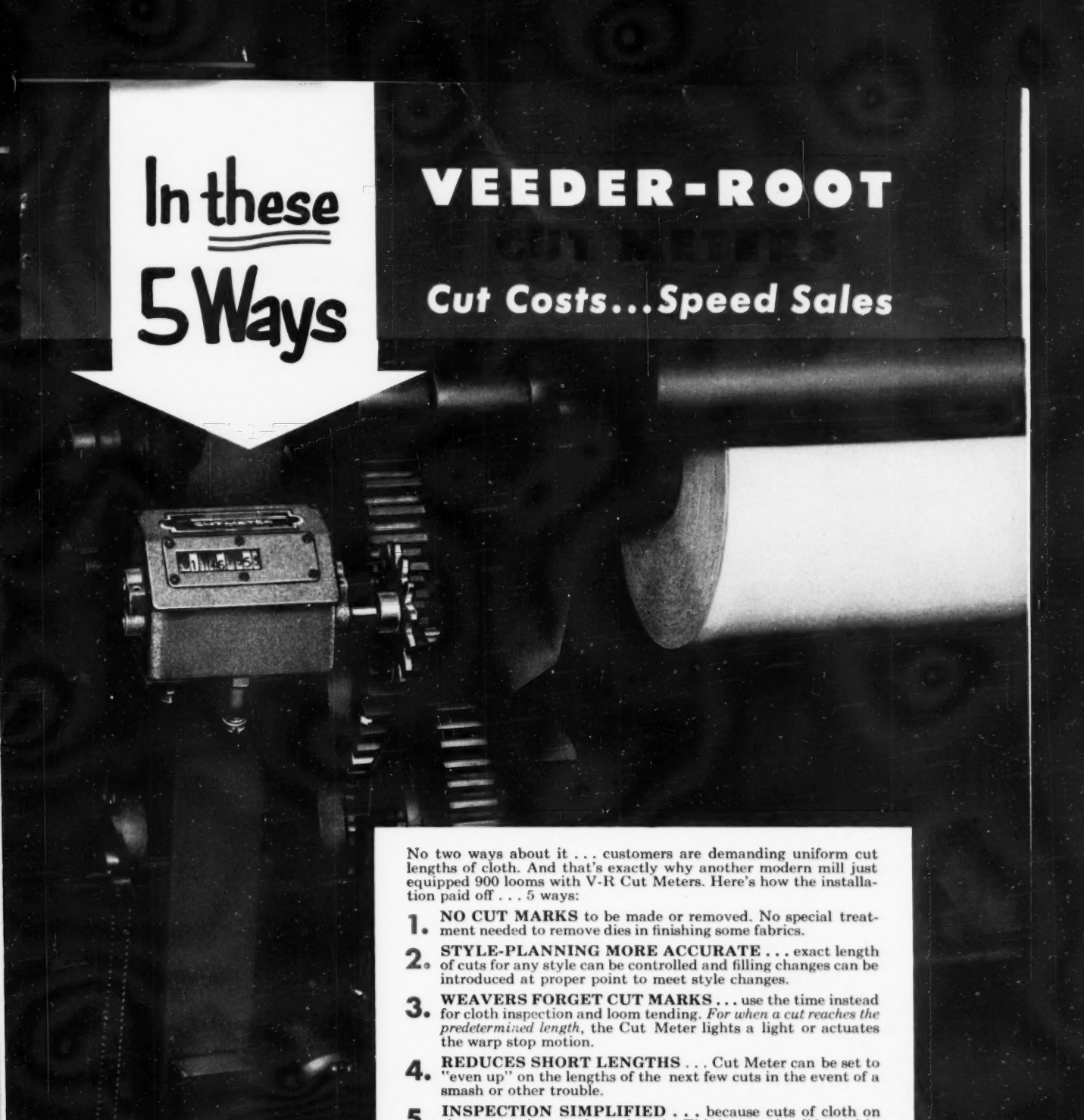
In these 5 Ways

VEEDER-ROOT CUT METERS

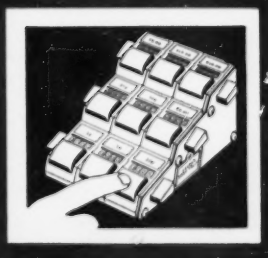
Cut Costs...Speed Sales



No two ways about it . . . customers are demanding uniform cut lengths of cloth. And that's exactly why another modern mill just equipped 900 looms with V-R Cut Meters. Here's how the installation paid off . . . 5 ways:

1. **NO CUT MARKS** to be made or removed. No special treatment needed to remove dies in finishing some fabrics.
2. **STYLE-PLANNING MORE ACCURATE . . .** exact length of cuts for any style can be controlled and filling changes can be introduced at proper point to meet style changes.
3. **WEAVERS FORGET CUT MARKS . . .** use the time instead for cloth inspection and loom tending. *For when a cut reaches the predetermined length*, the Cut Meter lights a light or actuates the warp stop motion.
4. **REDUCES SHORT LENGTHS** . . . Cut Meter can be set to "even up" on the lengths of the next few cuts in the event of a smash or other trouble.
5. **INSPECTION SIMPLIFIED . . .** because cuts of cloth on the same styles are of even length. This in turn simplifies finishing and shipping problems.

Customers can be *sure* they'll get uniform cut lengths from mills equipped with Veeder-Root Cut Meters. And that's why more and more mills are giving their customers this assurance which speeds sales. How about *your* mill? Just get in touch with the nearest Veeder-Root office.



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